Town of Warrenton, Virginia

Invitation for Bid – Recreation Center Site Grading Project

IFB Number: #05-001 **Closing Date: August 20, 2004 at 2:00 PM**

All bids must be received by the closing date and time to be considered.

One (1) original and (1) copy of each bid, including any attachment, shall be mailed or delivered to:

Town of Warrenton
Purchasing Agent
18 Court Street
P.O. Drawer 341
Warrenton, Virginia 20188

All inquiries for information regarding procurement procedures, selection criteria, bid submission requirements, or other fiscal/administrative concerns shall be directed to:

Rick Heartley, Purchasing Agent
P.O. Drawer 341
18 Court Street
Warrenton, VA 20188

Phone: 540-347-1102
Fax: 540-349-2414
e-mail staff@warrentonva.gov

For technical information relating to this IFB, please contact:

Chris Bogert, Project Engineer
P.O. Drawer 341
360 Falmouth Street
Warrenton, VA 20186

Phone: 540-347-1858
Fax: 540-349-8339
e-mail cbogert@warrentonva.gov

In compliance with this Invitation for Bid and all the conditions imposed herein, the undersigned offers and agrees to furnish the goods in accordance with the signed bid or as mutually agreed upon by subsequent negotiations.

Name and Address: _____ Phone #: _____

_____ Fax #: _____

_____

Submitted by: _____ Date: _____
Printed name

_____ FEIN/SSN: _____

_____
Signature

CERTIFICATION PAGE
RETURN THIS PAGE WITH PROPOSAL SUBMISSION

TOWN OF WARRENTON
INVITATION FOR BID

IFB NUMBER: 05-001

DATE OF THIS REQUEST: July 22, 2004

DESCRIPTION: Recreation Center Site Grading Project

BID OPENING DATE: August 20, 2004, 2:00 P.M.

The Town of Warrenton is accepting bids from qualified Class A contractors to provide and install the following grading improvements at the recreation Center site (all amounts are approximate):

Description	Approximate Quantity
Site Grading	85,000 CY
Storm Structures	31 Each
Storm Pipe	3850 LF
Asphalt Access Road	1400 SY
Asphalt Parking Lot	6100 SY
Asphalt Trail	6100 SY
Skate park/roller hockey concrete pad	2900 SY
Athletic Field Seeding and Mulching	9.0 ACRES
Optional Work	**Approximate Quantity**
Two inch (2") Copper Water Supply	1175 LF
Two inch (2") PVC Sanitary Force Main	1190 LF

1. **The following Special Terms and Conditions shall govern this purchase:**
The following Special Terms and Conditions shall govern this procurement:

   a. A Pre-Bid Conference will be held at the Town of Warrenton Public Works Facility located at 360 Falmouth Street on August 10, 2004 at 10:00 AM. Contact Public Works at (540) 347-1858 between 8:00 AM and 4:30 PM Monday –Friday for directions.

   b. Unless otherwise specified in the contract, the contractor shall furnish all the necessary personnel, materials, equipment, services, and facilities necessary to complete the aforementioned description of work.

   c. All bids are good for sixty (60) days from the bid opening date. This is unit price bid contract with all bid prices good for at least 200% increase of actual quantities over the estimated quantities listed on the bid sheet. The Town reserves the right to increase all estimated quantities by 200% at the current amount. Increases of quantities over 200% shall be subject to negotiation.

   d. All work shall conform to the VDOT Road and Bridge specifications, Section 505,

except where modified by Special Provisions, the Town Public Facilities Manual, and the Virginia Work Area Protection Manual. Any work area not conforming to Virginia Work Area Protection Manual is subject to be shut down by Engineer or Inspector.

e. The Town reserves the right to decrease or increase the quantities on the contract.

f. The contractor shall be responsible for keeping the roadways and sidewalks adjacent to the work area clean and free of debris.

g. All restoration, asphalt or grass areas that sinks or settles within one year will be replaced within two weeks of a written notice at no cost to the Town. All storm sewer work to have a one year warranty.

h. The project shall be completed in one hundred fifty (150) calendar days beginning the date the Notice to Proceed is issued. An additional seven (7) calendar days per option will be added to the contract length for all options the Town selects to be performed Liquidated damages in the amount of five hundred dollars ($500) per calendar day shall be assessed for failure to meet the completion date.

2. The General Terms & Conditions - Construction Projects, attached as Exhibit B, shall apply to this purchase.

3. Any person submitting a bid for construction work to any building, highway, sewer or other structure, the performance of which would require a contractor's license pursuant to the provisions of Sec. 54.1-1100 of the Code of Virginia, 1950, as amended, will be required to submit **as part of their bid**:

a. Satisfactory proof that such person is duly licensed under the terms of Sec. 54.1-1100 of the Code of Virginia, 1950, as amended, including the furnishing of any such contractor's number;

b. A written, sworn statement (notarized) that the person's license is in good standing and not subject to licensure as a contractor, subcontractor or owner/developer pursuant to Sec. 54.1-1100 of the Code of Virginia, 1950, as amended; Attached as Exhibit “C”.

4. The specifications for the “Recreation Center Site Grading Project” - is attached as "Exhibit A".

5. The contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the contractor, his agents, representatives, employees or subcontractors.

The contractor shall provide a certificate of insurance naming the Town of Warrenton as additional insured **and, if requested** a certified copy of said policy or endorsement(s) before commencement of contract. All insurance shall be placed with an insurer licensed to do business in the Commonwealth of Virginia. The underwriter shall be subject to the approval of the Town of Warrenton.

The contractor shall maintain limits no less than:

a. Commercial General Liability: $1,000,000 combined single limit per occurrence for bodily injury, personal injury and property damage. The general aggregate limit shall apply separately to this project/location or the general aggregate shall be twice the required occurrence limit.

b. Automobile Liability: $1,000,000 combined single limit per accident for bodily injury

and property damage.

c. Workers' Compensation and Employers Liability: Worker's Compensation as required by the Code of the Commonwealth of Virginia and Employers Liability limits of $1,000,000 per accident.

6. All bids must be placed on the enclosed **Bid Sheet** to be considered responsive.

7. Payment terms are net, 30 days from date of acceptance by the Public Works Department.

8. The successful contractor may be required to enter into a formal contract with the Town of Warrenton, a sample of which is available for inspection.

9. All bids shall be accompanied by a 5 (five) percent bid bond for the total amount of base bid.

10. Performance and payment bonds with a value of 100% of the contract amount will be required of the successful contractor prior to commencing work.

ALL BIDS MUST BE SIGNED AND SEALED IN AN ENVELOPE PLAINLY MARKED ON THE OUTSIDE, "SEALED BID ON RECREATION CENTER SITE GRADING PROJECT TO BE OPENED AT 2:00 PM ON AUGUST 20, 2004", AND SHALL BE FORWARDED TO THE PURCHASING AGENT.

Bids shall be opened and read aloud by the Purchasing Agent at the appointed hour and date and such of the bidders or members of the public as choose to attend.

The Town reserves the right to reject any and all bids and waive all informalities. Due to the nature of the project, awarding of the project may be subject to approval by the Town Council of the Town of Warrenton. The Town, through its duly adopted policies, may reject any or all bids.

Unless all bids are canceled rejected, the Town reserves the right granted by Section 11-53 of the Code of Virginia to negotiate with the lowest responsive, responsible bidder to obtain a contract price within the funds available to the Town whenever such low bid exceeds the Town's available funds. For the purpose of determining when such negotiations may take place, the term "available funds" shall mean those funds which were budgeted by the Town for this contract prior to the issuance of the written Invitation for Bid. Negotiations with the low bidder may include both modifications of the bid price and the Scope of Work/Specifications to be performed. The Town shall initiate such negotiations by written notice to the lowest responsive, responsible bidder that its bid exceeds the available funds and that the Town wishes to negotiate a lower contract price. The time, place, and manner of negotiating shall be agreed to by the Town and the lowest responsive, responsible bidder.

The Town of Warrenton does not discriminate on the basis of handicapped status in admission or access to its programs and activities. Accommodations will be made for handicapped persons upon prior requests.

TOWN OF WARRENTON

Exhibit A
Specifications for

IFB 05-001

RECREATION CENTER SITE GRADING PROJECT

BID DATE August 20, 2004

BID TIME 2:00 P.M.

Exhibit A

INDEX

GENERAL NOTES

The Town Manager reserves the right to reject any and all bids. The contract award may be subject to Town of Warrenton Town Council approval.

This project is to be constructed in accordance with the latest version of the Virginia Department of Transportation Road and Bridge Specifications and Road and Bridge Standards as amended by contract provisions and these plans. All work shall be performed in accordance with the Town's Public Facilities Manual.

The Contractor shall notify the Town in advance of commencing work thereon, and in the event of the necessity of disrupting utility or other services, he shall notify the appropriate official in charge of such utility or other services and arrange for the disruption and restoration of such service in a manner which will result in a minimum of inconvenience to the parties concerned. Notification should be given at least 48 hours in advance of any utility disruption.

Underground utility locations are approximate. The contractor shall field verify the vertical and horizontal locations of all existing utilities 48 hours prior to any excavation. Differences shall be reported to the Town immediately.

Utility conflicts not designated as a bid item will be resolved by the utility company or handled as a Change Order under Section 104. The Town reserves the right to relocate its own utilities regardless of relocation items in Optional Bid.

A detailed traffic plan must be submitted prior to issuance of Notice to Proceed for the drainage improvements on Rt. 211 and Old Waterloo Road.

All storm sewer and sanitary structures shall have a minimum of 8" bedding (#57 stone). Backfilling of utility trenches and structure locations with clean stone is an acceptable construction alternative.

The work area shall be kept clean at all times and all materials and debris not intended for work shall be promptly removed. Broom clean the surface of all paved areas immediately after backfilling operations. Areas outside the construction site must be kept clean at all times.

Care must be given to preserve any property pins not directly in conflict with the construction. It shall be the contractor’s responsibility to reset any property pins disturbed during construction.

Work hours for the job are 7:00 AM to 6:00 PM, Monday through Friday.

The quantities listed on the bid sheet are estimates, and should be treated as such. All bid prices are good for at least 200% increase of actual quantities over the estimated bid quantities listed on the bid sheet. Renegotiation of bid prices will not occur unless the actual quantities exceed a 200% increase over the estimated quantities.

END OF SECTION

SECTION 010

DEFINITIONS

1. **Contract Time Limit** - The calendar date specified for completion of the work described in the contract, including authorized extensions.

2. **Contractor** - Any individual, partnership, corporation, or joint venture that contracts with the Town to perform work.

3. **Engineer** - Either the Director Public Works or Director Public Utilities for the Town of Warrenton.

4. **Inspector** - The Engineer's authorized representative who is assigned to make detailed inspections of the quality and quantity of the work and its conformance to the provisions of the contract.

5. **PFM** - The current edition of the Town's Public Facilities Manual (PFM) with all revisions to date of project advertisement.

6. **Town** - Town of Warrenton

END OF SECTION

SECTION 050

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK UNDER THIS CONTRACT

A. The work covered under this contract comprises the furnishing of all labor, materials, equipment, tools and services and the installation and construction of all items, and the performance of all work necessary to complete the work shown or called for on the Drawings and/or specified in these Specifications.

B. The Work in this Contract shall consist of all excavation, backfill, pipe/box culvert installation, sanitary sewer installation, waterline installation, prefabricated bridge installation, asphalt pavement, curbing, grading, restoration and erosion control items shown on the plans and specified in these specifications.

C. Town of Warrenton shall supply the Contractor with six (6) sets of approved plans and specifications and copies of approved Town standard specifications.

PART 2 PRODUCTS

All products incorporated into the work area to be new, unused, and first quality unless otherwise specifically noted.

PART 3 EXECUTION

A. All work is to be performed in a workmanlike manner by properly trained and qualified personnel under supervision of the contractor's representative.

B. All roadway work shall be performed in accordance with the latest version of the Virginia Department of Transportation Road and Bridge Specifications and Standard Details.

C. Contractor shall coordinate excavation of borrow material with owner or owners representative.

D. Virginia Safe Work Area Manual and all OSHA safety requirements

END OF SECTION

SECTION 100

CONTRACT COMPLETION

PART 1 GENERAL

1.01 The period of performance is one hundred fifty (150) calendar days after the Notice to Proceed is issued. An additional 7 calendar days per option will be added if the optional work is performed. If the project is not substantially completed before the completion date, five hundred ($500) per day in liquidated damages will be assessed for each calendar day exceeded.

END OF SECTION

SECTION 101

REGULATORY REQUIREMENTS

PART 1 GENERAL

1.01 REGULATORY COMPLIANCE

It is consistent with the intent of these Specifications to describe those performance standards, often broad and general in nature, required to provide a complete and operating system. It shall be the responsibility of the Contractor to familiarize himself fully regarding the detailed needs and requirements of any and all regulatory agencies having jurisdiction over this work. These detailed needs and requirements should be accommodated, as part of the Work, in every manner just as if they were prescribed in these Contract Documents.

1.02 REQUIREMENTS INCLUDED

Provide required personnel, equipment, and materials, to construct project according to applicable codes.

1.03 APPLICATION CODES AND STANDARDS

As a minimum standard of quality and workmanship, construction is to comply with the latest edition of the following codes and standards insofar as they are applicable:

1. Department of Health, Commonwealth of Virginia, "Waterworks Regulations", and Sewerage Regulations.
2. Virginia Erosion and Sediment Control Handbook.
3. Virginia Department of Transportation, "Road and Bridge Specifications."
4. American Water Works Association Standards.
5. American Concrete Institute Standards (ACI).
6. American Society for Testing Materials (ASTM).
7. American Welding Society (AWS).
8. National Electric Code (NEC).
9. Underwriter's Laboratories (UL).
10. Town of Warrenton, Public Facilities Manual (PFM).
11. Virginia Occupational Safety and Health Administration (VOSHA).

The above codes and standards are hereinafter referred to as "Reference Specifications."

END OF SECTION

SECTION 102

LINES AND GRADES

PART 1 GENERAL

A. All elevations indicated or specified refer to the benchmark indicated on the plans. Control benchmarks are at the elevation and in the location as shown on the Plans.

B. The Engineer will establish base lines, control points, and benchmarks, and will establish other pertinent monuments at the site of the work. From these established lines and bench marks, the Contractor shall run all lines and levels, furnish, set and drive grade stakes, and do all other work necessary to lay out his work in accordance with the dimensions and elevations shown on the Plans.

C. The Contractor shall employ properly qualified personnel to perform the work herein described. The Contractor shall also furnish and set all template and batter boards necessary. The Contractor will be held responsible for the preservation of all stakes and marks established by the Engineer, and if any of the stakes and marks is carelessly or willfully disturbed, the cost of replacing them shall be charged against the Contractor.

END OF SECTION

SECTION 103

APPLICATION FOR PAYMENT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Contractor shall submit Applications for Payment to Owner by the first day of the month. Applications will be made on standard forms provided by the Owner, which shall be the bid form unless otherwise specified. All applications must show complete schedule of values and percentage of work completed to date. Applications for Payment will not be processed without the following:

A. Supporting data for percent completion; i.e. all submittals and reports up to date.

B. Establishment and maintenance of erosion and sediment control measures in accordance with these specifications.

Retainage will be 5% of gross amount due until Final Completion unless otherwise specified in the Agreement.

In the event the contractor falls behind in work performance by more than 10%, the retainage shall be increased to 50% of the gross amount due.

Actual work progress shall be measured based on the unit quantities completed. This figure shall be compared to the actual number of calendar days used.

END OF SECTION

SECTION 104

CHANGE ORDER PROCEDURES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

Promptly implement change order procedures. Provide full written data required to evaluate changes to Engineer and Owner. Any claim or change order submitted by the contractor shall be subject to the pre-notification requirements in Section 105.16 of the VDOT Road and Bridge Specifications, except the "Town" shall be in lieu of the Department and the Town Manager will act in place of the Commissioner.

1.02 RELATED REQUIREMENTS

A. Agreement

B. General Conditions

C. Section 103; Application for Payment

D. Section 107; Construction Schedule

E. Section 110; Definition of Payment Items

1.03 PRELIMINARY PROCEDURES

A. Owner or Engineer may initiate changes by submitting a Proposal Request to Contractor. Request will include:

1. Detailed description of the Change, Products, and location of the Change in the Project.

2. Supplementary or revised Drawings and Specifications.

3. The projected time span for making the change.

4. A specific period of time during which the requested price will be considered valid.

5. Such request is for information only, and is not an instruction to execute the changes, nor to stop work in progress.

B. Contractor may initiate changes by submitting a written notice to Engineer, containing:

1. Description of the proposed changes.

2. Statement of the reason for making the changes.

3. Statement of the effect on the Contract Sum and the Contract Time.

4. Statement of the effect on the Work of separate Contractors.

5. Documentation supporting any change in Contract Sum or Contract Time, as appropriate.

1.04 CONSTRUCTION CHANGE AUTHORIZATION

A. In lieu of Proposal Request, Engineer may issue a Construction Change Authorization for Contractor to precede with a change for subsequent inclusion in a Change Order.

B. Authorization will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change, and will designate the method of determining any change in the Contract Sum and any change in Contract Time.

C. Owner and Engineer will sign and date the Construction Change Authorization as authorization for the contractor to proceed with the changes.

D. Contractor may sign and date the Construction Change Authorization to indicate agreement with the terms therein.

1.05 DOCUMENTATION OF PROPOSALS AND CLAIMS

A. Support each quotation for a lump-sum proposal, and for each unit price which has not previously been established, with sufficient substantiating data to allow Engineer to evaluate the quotation.

B. On request, provide additional data to support time and cost computation:

1. Labor required

2. Equipment required

3. Products required

(a) Recommended source of purchase and unit cost.

(b) Quantities required.

4. Taxes, insurance, and bonds.

5. Credit for work deleted from Contract, similarly documented.

6. Overhead and profit.

7. Justification for any change in Contract Time.

1.06 PREPARATION OF CHANGE ORDERS

A. Engineer will prepare each Change Order.

B. Form: Change Order

C. Change Order will describe changes in the Work, both additions and deletions, with attachments of revised Contract Documents to define details of the change.

D. Change Order will provide an accounting of the adjustment in the Contract Sum and in the Contract Time.

1.07 LUMP-SUM/FIXED PRICE CHANGE ORDER

A. Content of Change Orders will be based on, either:

1. Engineer's Proposal Request and Contractor's responsive proposal as mutually agreed between Owner and Contractor.

2. Contractor's proposal for a change, as recommended by Engineer.

B. Owner and Engineer will sign and date the Change Order as authorization for the Contractor to proceed

with the changes.

C. Contractor will sign and date the Change Order to indicate agreement with the terms therein.

1.08 CORRELATION WITH CONTRACTOR'S SUBMITTALS

A. Periodically revise Schedule of Values and Request for Payment forms to record each change as a separate item of Work, and to record the adjusted Contract Sum.

B. Periodically revise the Construction Schedule to reflect each change in Contract Time.

1. Revise sub-schedules to show changes for other items of work affected by the changes.

C. Upon completion of work under a Change Order, enter pertinent changes in Record Documents.

END OF SECTION

SECTION 105

PRECONSTRUCTION CONFERENCE

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Contractor's representative shall attend the preconstruction conference and present the following information for acceptance by the Owner and Engineer:

1. Construction Schedules

B. Conference will be held at the Town's Public Works facility after the contract has been executed, but before the Notice to Proceed is issued.

1.02 RELATED REQUIREMENTS

A. Section 107; Construction Schedules

B. Section 110; Definition of Payment Items

END OF SECTION

SECTION 106

PROGRESS MEETINGS

PART 1 GENERAL

As a general rule, progress meetings will be held monthly. If, however, progress is not made as scheduled or if Owner or Engineer desires to discuss revised progress schedules or quality of workmanship or other aspects of concern, a progress meeting may be called. Contractor will be required to submit weekly written schedules outlining activities for the upcoming week on Friday of each week. Weekly schedules are to be submitted to the Project Inspector.

END OF SECTION

SECTION 107

CONSTRUCTION SCHEDULES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Prior to the issuance of the Notice to Proceed, Contractor shall submit to Owner and Engineer a proposed construction schedule that will conform to contract completion time frames.

B. Construction schedule shall be in a form which will clearly show the proposed degree of completeness of each aspect of the construction throughout the life of the contract. Bar graphs and/or PERT diagrams are acceptable forms.

C. Owner and Engineer will review schedule. Final construction schedule may be revised and accepted by all parties during the Preconstruction Conference.

1.02 RELATED REQUIREMENTS

A. Section 105; Preconstruction Conference

B. Section 106; Progress Meetings

END OF SECTION

SECTION 108

SHOP DRAWINGS, PRODUCT DATA

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Contractor shall submit for the approval of the Engineer, prior to start of construction, details or shop drawings, and manufacturer's specifications of all materials and equipment he intends to furnish under this Contract.

B. Equipment shall not be fabricated until shop drawings have been approved.

C. All shop drawings shall be checked, stamped, signed, and dated by the Contractor before submission to the Engineer. Accompany with certificate, signed by Supplier and Contractor, stating that products comply with the requirements of these Specifications.

D. Contractor shall submit two (2) copies more than the number which he wishes to have returned from Engineer.

E. Engineer's approval of Contractor's shop drawings will be general and shall not relieve the Contractor from the responsibility for adherence to the Contract, nor shall it relieve him of the responsibility for any error which may exist. Where such errors or omissions are discovered later, they shall be made good by the Contractor irrespective of any approval by the Engineer.

END OF SECTION

SECTION 109

RELEASES

PART 1 GENERAL

For work on Right(s)-of-way and in temporary and permanent easements, the contractor shall furnish a release from governing authority or property owner prior to completion and final payment.

END OF SECTION

SECTION 110

DEFINITION OF PAYMENT ITEMS

PART 1 GENERAL

1.01 THE DEFINITIONS OF ITEMS AND BASIS OF PAYMENT ARE AS FOLLOWS:

1. Mobilization

Lump sum price for moving personnel, equipment, and materials on site. **Price includes all test pits.**

2. Site Survey

Lump sum price to perform all necessary construction survey, stakeout, and cut sheets throughout the project. Price includes resetting any disturbed property pins by a registered land surveyor. Price to include As-Built survey after the project is completed. The As-Built drawing will be used to determine payment for mass site grading payment item. Price to include all materials, labor, and equipment.

3. Site Clearing, Demolition, & Preparation

Lump sum price for clearing, grubbing, tree removal/trimming, temporary relocation of fences and mailboxes, etc. and demolition as required. Price to include reinstallation of fences, mailboxes, and all other appurtenances to existing locations. Price includes all materials, labor, and equipment.

3. Traffic Control

Lump sum price for all traffic control devices as per the Virginia Safe Work Area Manual. Price to include any incidental traffic cones throughout demolition and construction as per Virginia Work Area Manual. Price to include all installation and maintenance through out the project of traffic signage, cones, barrels, caution tape, etc. as per the Engineer. Price to include closing the site after the construction day and on weekend to prevent students from the nearby high school from entering the construction site. Price to include all materials, labor, and equipment.

4. Flagger Service

Price per hour for certified flagger service as per the approved Traffic Control Plan and the Virginia Safe Work Area Manual. Price to include all flagger signage, and safety equipment. Price to include all materials, labor, and equipment

5. Silt Fence

Price per linear foot for installation and maintenance of silt fence or super silt fence, as per the Plans, Town PFM, and the Engineer. Price to include installation, maintenance during construction, and removal. Price to include all erosion and sediment control measures in accordance with the Virginia Erosion and Sediment Control Handbook and as selected by the Contractor, subject to the approval of the Engineer. Price to include removal of all silt and debris collected by the material and regrade for a smooth transition with existing grade. Price includes materials, labor, and equipment.

6. Construction Entrance

Price per each to install and maintain a construction entrance as per the Plans. Price to include maintenance of the entrance throughout the construction project and removal of the entrance at the completion of the project. Price to include all materials, labor, and equipment.

7. Construction Creek Crossing

Price per each to install a construction creek crossing as per the plans and Engineer. Price to include placement of at

least 3 thirty-six inch (36") diameter RCP in the existing creek bed to allow safe passage of all construction equipment across the creek. Price to include maintenance of the creek crossing for the duration of the project. Price to include regrading of the crossing area for temporary use by the Town at the end of the project. Price to include a materials, labor, and equipment.

8. Site Grading

Price per cubic yard for mass site grading as per the plans. Price to include all cuts, fills, and compaction to bring the existing field to the proposed lines and grades on the plans. Price to include removal and stockpiling of existing topsoil. Price to include all materials, labor, and equipment. The Town has prepared an engineering estimate, however it should be treated as an estimate only. Payment will be based on the actual number of cubic yards moved. Payment quantity will be calculated by comparing the existing survey to a survey completed after the work is performed to calculate the total cubic yards moved on the site. The contractor can invoice this item on an estimated amount of completion throughout the project.

9. HDPE Doublewall Storm Pipe

Price per linear foot for the installation of HDPE Doublewall Storm Pipe to the specified lines and grades as per the Plans. Price includes all clearing, grubbing, excavation, backfill, all accessories, testing, and **any specified bedding**. Item includes cutting and removal of pavement or concrete, safety devices, sheeting and shoring used by the contractor and removal and disposal of excess or unsuitable material. Pipe is measured from outside of manhole to outside of manhole (does not include any piping inside manhole)**.** Price to include all materials, labor, and equipment.

10. Reinforced Concrete Pipe

Price per linear foot for the installation of Reinforced Concrete Pipe to the specified lines and depths on the Plans. Price includes all clearing, grubbing, excavation, backfill, all accessories, testing, and **any specified bedding**. Item includes cutting and removal of pavement, concrete piping, safety devices, sheeting and shoring used by the contractor and removal and disposal of excess or unsuitable material. Pipe is measured from outside of manhole to outside of manhole (does not include any piping inside manhole)**.** Price to include all materials, labor, and equipment.

11. Storm Sewer Structures

Price per each for installation of VDOT Standard Manholes and/or Drop Inlets as per the plans, VDOT Standards, and Town Public Facilities Manual. Price includes all accessories, clearing, excavation, connection to existing lines, any specified bedding, backfill, restoration, and disposal of excess or unsuitable material. Price includes all materials, equipment, and labor.

12. End Section ES-1

Price per each for installation of Standard ES-1 End Sections as per the plans, VDOT Standards, and Town Public Facilities Manual. Price includes all accessories, clearing, excavation, any specified bedding, backfill, restoration, and disposal of excess or unsuitable material. Price includes grading for a smooth tie in to existing grade. Price includes all materials, equipment, and labor.

13. Rip Rap

Price per ton to place Class 1 Rip Rap as per Town PFM, the Plans, and VDOT Specifications at the outlets of storm pipes. Price to include placement of filter fabric with proper overlap to prevent weed growth and Rip Rap to entirely cover the fabric. Price to include proper grading for drainage into and out of any end sections/walls and smooth transition with existing gradelines. Price to include all excavation, clearing and grubbing, materials, labor, and equipment.

14. Lighting Conduit

Price per linear foot for installation of 2" PVC electrical conduit as per the plans for overhead lighting. The conduit is to be stubbed out of the ground at the light locations. Price to include all clearing, grubbing, excavation, installation of light conduit at a minimum depth of three feet (3'). Price to include all necessary fittings and appurtenances. All fittings to be sweep style fittings to allow ease of wiring pulling. Price to include installation of junction boxes at locations where wires tee.

15. Access Road Asphalt Pavement

Price per square yard for the installation of heavy duty pavement for the access road as specified in the Plans. Price to include subbase preparation, 8" of 21A Select Backfill, 4" BM-25.0 base course bituminous concrete, and 2" SM9.5A top course bituminous concrete. **Asphalt to be compacted using at least a four-ton vibratory roller.** Price to include all materials, labor, and equipment.

16. Parking Lot Asphalt Pavement*

Price per square yard for the installation of base asphalt pavement for the parking lot area as per the Plans.. Price to include subbase preparation, 6" of 21A Select Backfill, and 3" BM-25.0 base course bituminous concrete, and two inches (2") of SM9.5A top course bituminous concrete. **Asphalt to be compacted using at least a four-ton vibratory roller.** Price to include all materials, labor, and equipment.

17. Asphalt Trail

Price per square yard for the installation of asphalt trail as per the Plans. Price to include subbase preparation, 6" of 21A Select Backfill and 2" SM9.5A top course bituminous concrete. **Asphalt to be compacted using at least a four-ton vibratory roller.** Price to include all materials, labor, and equipment.

18. Aggregate Trail

Price per square yard for the installation of aggregate trail as per the plans. Price to include all subbase preparation, four inches (4") of compacted select backfill 21A, and two inches (2") of compacted No.10 Stone Dust. **Aggregate to be compacted using at least a four-ton vibratory roller.** Price to include all materials, labor, and equipment.

19. Skate/Roller Hockey Pad

Price per square yard for installation of Skate park and roller hockey concrete pads. Price to include all clearing, grubbing, excavation, subgrade preparation, installation of four inches (4") of compacted select backfill 21A, three by three inch (3"x3") wire reinforcement mesh, and four inches (4") of Class A concrete. The Roller Hockey pad is to have a float style finish. The Skate Park pad is to have a standard broom finish. Price to include all materials, labor, and equipment.

20. Fine Grading, Seeding and Mulching

Lump sum price for restoration, placing of suitable fill material, fine grading, seeding and mulching of all areas disturbed and not to receive pavement. Price to include spreading of topsoil stockpiled prior to site grading. **Fine grading to include removal of all rocks and dirt clods in the top three inches of material.** Grading to include removal of all dirt clods and rocks, raking and smooth transition from disturbed areas to existing gradeline. Price includes all materials and labor for establishment and maintenance of grass areas per specification. This item does not include the Athletic Field Seeding and Mulching Areas (ball fields, practice fields, and baseball field).

Seeding shall conform to the following:

A. Lime	2 ton/acre
B. Fertilizer (15-30-15)	0.5 ton/acre
C. Seed	90 lb/acre

21. Athletic Field Fine Grading, Seeding and Mulching

Price per acre for restoration, placing of suitable fill material, fine grading, seeding and mulching of all Athletic

Fields to include the soccer fields, practice field, and baseball field.. **Fine grading to include removal of all rocks and dirt clods in the top three inches of material.** Grading to include removal of all dirt clods and rocks, raking and smooth transition from disturbed areas to existing grade line. This item is only to be performed on the athletic fields (soccer fields, baseball field, and practice field). Price to include watering and application of all fertilizers recommended by the manufacturer. Price includes all work for establishment and maintenance of grass areas per the below specification.

Seeding shall conform to the following:

All seed to be: Newom Seed Inc., "90/10 Fescue/Kentucky Bluegrass Mixture", or approved equal, and to consist of:
A.29.70% Rendition Tall Fescue
B.29.70% Redcoat Tall Fescue
C. 29.70 % Chapel Hill Tall Fescue
D. 9.85% Blue Chip Kentucky Bluegrass
E.1.05 % Inert Matter

22. Water Supply Line

Price per linear foot to install 2" copper water supply line as per the lines and grades on the plans. Price to include all clearing, grubbing, grading, excavation, bedding, piping and fittings, and restoration. Price to include placement of piping a minimum of three and a half feet (3.5') below finished grade and no greater than six feet (6'). Price to include installation of a conduit sleeve for all creek crossings to extend at least ten feet beyond the bank of the creek. Price to include all materials, labor, and equipment.

23. Sanitary Sewer Force Main

Price per linear foot to install two inch (2") Schedule 40 PVC sanitary sewer force main as per the lines and grades on the plans. Price to include all clearing, grubbing, grading, excavation, bedding, piping and fittings, and restoration. Price to include placement of piping a minimum of three and a half feet (3.5') below finished grade and no greater than six feet (6'). Price to include installation of a conduit sleeve for all creek crossings to extend at least ten feet beyond the bank of the creek. Price to include all materials, labor, and equipment.

24. Rock Excavation*

Price per cubic yard for the excavation and disposal of rock, per plans or during construction. All measurements are of the rock in place, not what is hauled away. Rock excavation will be paid for the pipe plus up to three feet horizontally and down to grade plus up to one foot. Rock is considered to be all material that cannot be removed with a Caterpillar Model No. 215D-LC trackhoe, or equivalent, equipped with a 120 hp flywheel and a short-tip radius rock bucket with 25,000-lbs buckets curling force. An example of rock excavation is material that is removed with the use of a Hoe Ram or Blasting. Price includes all materials, labor, and equipment required for excavation and disposal. **All blasting shall conform to VDOT Specifications 107.11 and 303.04, The Public Facilities Manual, and The 1996 BOCA National Fire Prevention Code Chapter 30. This Item to have prior approval by Engineer and measured by a Town representative or no payment will be made.**

25. Install Suitable Fill

Price per cubic yard to furnish and install suitable fill material. Price to include removal and disposal of unsuitable material. Price to include hauling, placement, and compaction of suitable fill material to the lines described on the Plans. Suitability of all fill material to be determined by Town PFM, VDOT Standards, and the Engineer. Payment based on in ground, or in place, measurement. Price to include all materials, labor, and equipment.

26. Undercut

Price per cubic yard for excavation and disposal of unsuitable material and installing and compacting Select Backfill 21A. Payment to be based on the quantity of unsuitable material as measured in the ground. Price to include all clearing, grubbing, excavation, disposal of unsuitable material, placement, and compaction. Price includes all materials, labor, and equipment necessary. **This Item to have prior written approval by Engineer and measured**

by a Town representative or no payment will be made.

END OF SECTION

SECTION 111

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 GENERAL

1.01 PROTECTION AND SAFETY

Contractor shall:

A. Protect benchmarks and existing structures, property corners, roads, and paving against damage from equipment and vehicular or foot traffic.

B. Cease operations and notify Engineer immediately if safety of adjacent area(s) or structure(s) appears to be endangered. Do not resume operations until safety is restored.

C. Prevent movement, settlement or collapse of adjacent services, structures, trees, and etc. Assume liability for such movement, settlement, or collapse. Promptly repair damage at no cost to the owner.

D. Provide, erect and maintain barricades, lighting and/or guardrails as required to protect the general public, workers, and adjoining property.

E. Protect excavations by shoring, bracing, sheet piling, underpinning, or other methods, as required to prevent cave-ins or loose dirt from falling into excavations.

F. Notify Engineer of unexpected sub-surface conditions and discontinue work in area until Engineer provides notification to resume work.

G. Protect bottom of excavations and soil around and beneath foundations from frost.

H. Insure all required environmental protection devices and procedures are in place, properly maintained, and operational.

END OF SECTION

SECTION 112

TRAFFIC REGULATION

PART 1 GENERAL

A. **Prior to issuance of Notice to Proceed, the Town will specify a Traffic Control Plan.**

B. Do not close or obstruct roadways without prior permission/coordination.

C. **Old Waterloo Road must have traffic maintained at all times.**

D. All Work shall be performed in compliance with the current version of the Virginia Work Area Protection Manual and all OSHA Regulations

E. Conduct operations with minimum interference to public roadways.

F. Maintain designated temporary roadways and detours for vehicular traffic.

END OF SECTION

SECTION 113

CONTRACT CLOSEOUT

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Procedures:

1. Upon substantial completion of project, submit to Engineer Application for Final Payment.

2. Final Inspection meeting will be held at the site to determine completeness.

3. A final "punch list" of items to be completed will be prepared by Owner, Engineer, and Contractor at this meeting.

4. Complete items on punch list and notify Engineer of completeness.

5. Owner's payment of final application shall terminate the Contract except as provided for bonds and warranties for the guarantee period.

END OF SECTION

SECTION 114

CLEANING

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Daily, at the minimum, clean the premises of accumulated construction debris. All streets including the surrounding side streets must be kept clean of mud and trackings from vehicles. Loose gravel and dust must be removed from the street.

B. Prior to final completion, thoroughly remove from premises any debris remaining from construction activities, and properly dispose. Leave premises in a clean, neat, orderly and safe condition.

END OF SECTION

SECTION 115

PROJECT RECORD DOCUMENTS

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

A. Provide personnel to:
   1) Keep a set of Contract Drawings on the job site at all times.
   2) Revise drawings to show actual location and details of the finished work.
   3) Show locations and details of utilities uncovered by work.

B. Submit Record Documents to Engineer at or before the final inspection meeting.

END OF SECTION

SECTION 116

SITEWORK PROCEDURES

PART 1 GENERAL

1.01 DESCRIPTION

General instructions for sitework.

1.02 SCOPE

Sitework shall include site preparation, earthwork, site improvements, and paving/surfacing.

1.03 QUALITY ASSURANCE

A. Prior to beginning work, become thoroughly familiar with site conditions and all sections of the Division.

B. Thoroughly coordinate all sections of this Division.

C. Comply with all pertinent codes and regulations.

D. Perform all required tests in accordance with section requirements.

1.04 SUBMITTALS

A. Shop drawings, product data.

B. Releases.

C. Disinfection and bacteriological reports.

D. Pressure test logs.

E. Project Record Documents.

F. Operating and maintenance data.

1.05 PERMITS

Obtain required permits from appropriate authorities before sitework begins.

1.06 DUST CONTROL

A. Use all means necessary to control dust on and near the Work, and on and near all off-site borrow areas, if such dust is caused by the Contractor's operations during performance of the work, or if resulting from the conditions in which the contractor leaves the site.

B. Thoroughly moisten all surfaces as required to prevent dust from being a nuisance to the public, neighbors, and concurrent performance of other work on the site.

1.07 MAINTAINING TRAFFIC

A. Do not close or obstruct roadways without permits.

B. Conduct operations with minimum interference to public or private roadways.

C. Maintain designated temporary roadways, and detours for vehicular traffic.

PART 2 PRODUCTS

In accordance with the provisions of the following sections.

PART 3 EXECUTION

3.01 SITE INSPECTION

Prior to all work of this division, carefully inspect the entire site and all objects designated to be removed and to be preserved.

3.02 CLARIFICATION

The drawings do not propose to show all objects existing on the site. Before commencing any work in this Division, verify with the Engineer all objects not clearly identified to be removed or to be preserved and any discrepancies not fully resolved.

3.03 PRIOR CONDITIONS INSPECTIONS

A. Prior to all work of this division, carefully inspect the installed work of all other trades and verify that all such work is complete to the point where installation may commence in accordance with the original design, all pertinent codes and regulations, and all applicable portions of the reference standards.

B. In the event of discrepancy, immediately notify the Engineer and do not proceed with installation in non-conforming areas until all identified discrepancies have been fully resolved.

3.04 PROTECTION AND SAFETY

Verify all required protection devices are in place and operational.

3.05 PREPARATION AND LAYOUT

A. Establish extent of sitework by area and elevations; designate and identify datum elevation.

B. Set required lines and levels.

C. Maintain benchmarks, monuments and other reference points.

3.06 PROCEDURE

Provide sitework in accordance with lines and levels required for construction of the Work, including space for forms, bracing and shoring, foundation drainage systems, applying damp-proofing and waterproofing, and to permit inspection.

3.07 EXCESS WATER CONTROL

A. Do not place, spread, or roll fill material during unfavorable weather conditions. Do not resume operations until moisture content and fill density are satisfactory.

B. Provide berms or channels to prevent run-off into subgrade; promptly remove all water collecting in depressions.

C. Provide and maintain at all times during construction, ample means and devises with which to promptly remove and dispose of all water from every source entering the excavations. Dewater by means, which will ensure dry excavations and the preservation of the final lines and grades of bottoms of excavations.

3.08 SURPLUS MATERIALS

A. Remove surplus backfill materials from site, or as otherwise directed by Owner.

B. Leave stockpile areas completely free of all excess fill materials.

3.09 REMOVAL OF DEBRIS

A. Promptly remove cleared and construction debris from site.

B. Obtain permission, as required, from applicable regulatory authority for disposal of debris at waste disposal site.

C. Remove surplus equipment and tools from the site.

END OF SECTION

SECTION 117

EROSION AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 SCOPE

Permanent vegetation, temporary vegetation, mulching, and conservation structures.

1.02 RELATED REQUIREMENTS

A. Section 116; Sitework Procedures

B. Virginia Erosion and Sediment Control Handbook, Latest Edition

C. Town of Warrenton Erosion & Sediment Control Ordinance.

PART 2 PRODUCTS

In accordance with the Virginia Erosion and Sediment Control Handbook and as selected by the Contractor, subject to the approval of the Engineer.

PART 3 EXECUTION

3.01 GENERAL

A. Comply with the "Virginia Erosion and Sediment Control Handbook" by the Virginia Soil and Water Conservation Commission to prevent sediment from entering storm sewers and drainageways.

B. All applicable erosion and siltation control measures shall be taken prior to grading.

C. No more than 60 feet of trench shall be open at any one time unless prior coordinated/approved.

D. Any disturbed area, not paved, sodded or built upon by November 15 is to be seeded on that date with oats, Abruzzi rye, or equivalent and mulched with hay or straw.

E. Synthetic filter fabric fencing shall be used for sediment control when the water line or land disturbing activities are within 25 feet of a live creek or stream.

B. No excavated material shall be placed in streambeds.

C. Inspect all erosion and sediment control devices at the close of each work day and after each rain storm. Make any necessary repairs or cleanup to maintain the effectiveness of the device immediately.

H. Protect graded areas from the action of the elements. Settlement or other damage that occurs prior to acceptance of the work shall be repaired and grades satisfactorily reestablished.

I. Upon completion of construction work and after spoil and debris have been removed, regrade any areas disturbed by operations.

J. No disturbed area will be denuded for more than 30 calendar days after the completion of grading. Those areas which are used for access to or from the actual construction site may remain in a denuded form so long as erosion control is properly provided to insure that there is no erosion run-off which could traverse across or out of the existing easement, which is provided to the Contractor.

K. All disturbed areas not in the streets and not used for access to or from the continuing job are to be mulched

and seeded within 7 days after backfill. For those areas which are used for access, the mulch and seeding will be required 30 days after the completion of the job or use of that area for access by the Contractor.

3.02 MULCHING

When final grading has not been completed, apply mulch asphalt emulsion, jute matting or similar materials for temporary protection. Areas brought to final grade during an off-season may be mulched immediately and overseeded at the proper season with permanent grass land legume species. Properly anchor mulch to prevent dislodging.

3.03 TEMPORARY SEDIMENT BARRIER(S)

Provide a silt fence barrier across, or at the toe of, a slope to intercept and detain sediment. See drawings for location.

3.04 OTHER APPROVED MEASURES

Provide all other materials required by governing regulations.

3.05 MAINTENANCE

Maintenance shall be as indicated on plans.

3.06 REMOVAL

Remove all control measures at the completion of the Work and restore site as required by this Division.

END OF SECTION

SECTION 118

GRADING, EXCAVATION, AND COMPACTION

PART 1 GENERAL

1.01 SCOPE

The work covered under this Section consists of furnishing all labor, equipment, and materials necessary to complete the grading and excavation called for on the plans. This includes all excavation, backfilling, and compaction required by the Contract Documents.

1.02 RELATED REQUIREMENTS

A. Virginia Department of Transportation, "Road and Bridge Specifications"

B. Virginia Erosion and Sediment Control Handbook

C. American Society for Testing Materials (ASTM)

D. Section 116; Sitework Procedures

E. Section 117; Erosion and Sediment Control

F. Section 119; Trenching, Backfilling and Compaction

PART 2 EXECUTION

2.01 EXCAVATION

A. Excavate to elevations and dimensions shown on the drawings.

B. Remove all topsoil and stockpile on site in locations indicated on drawings. All other excess material to be used in the future for engineered fill shall be stockpiled in areas shown on drawings.

C. Bidders shall base their Bids on Unclassified Excavation, except for “Rock Excavation”, to the lines and levels shown on the drawings.

D. Rock Excavation is any material that cannot be removed with A Caterpillar 215D-LC track-type hydraulic excavator, equipped with a 42-inch wide short-tip radius rock bucket, rated at not less than 120 hp flywheel power with bucket curling force of not less than 25,00 lbs and stick-crowd force of not less than 18,000lbs. For example, material that requires removal with a Hoe Ram or blasting is considered rock excavation. Quantity will be measured in the ground, with the width being the pipe diameter plus up to three feet and the depth to the bottom of the pipe plus up to one foot.

2.02 SHORING

A. Provide all necessary shoring, bracing, etc., as required to maintain excavations and to prevent cave-in of excavations back of all retaining walls and sufficient to resist the pressure.

2.03 FILL MATERIAL

A. Where engineered fill is specifically called for on the Drawings, fill material shall be fine grained cohesive material of low permeability. Material shall contain no rock fragments or dirt clods exceeding 3" in maximum dimension, shall be well graded, and shall conform generally to the following:

Passing 2" sieve.....95% minimum

Passing #200 sieve.....75% maximum

B. Before fill material is used, it **shall be tested by an Independent Testing Laboratory for conformity with these requirements and for suitability for compaction**. All tests shall be paid for by the Contractor. If suitable fill material is not available at the Project Site, it shall be furnished by this Contractor. All fill material shall be of similar composition.

C. All other fill material shall be well-compacted earth, free of debris of all kinds.

2.04 FILLING AND BACKFILLING

A. Remove debris from excavation before backfilling. Fill shall not be placed in water or on muddy ground.

B. Engineered fill material specified above shall be installed in layers having a loose thickness of approximately 8". Layers shall be placed covering the entire area until the specified top elevation of the fill has been reached. After placing of each layer, the fill material shall be compacted to a density of not less than 95% modified proctor in accordance with ASTM D1557. The compaction of the material shall be accomplished by means of a vibratory roller, or sheepsfoot roller depending on material used. Where vibratory roller is used, no less than two passes in each direction shall be made with the vibratory roller over the entire area of each layer. Additional passes shall be made if the specified degree of compaction, as established by tests, has not been obtained.

C. The degree of compaction obtained shall be verified by means of field density tests made by an Independent Laboratory, and paid for by the Contractor. Where tests indicate a deficiency in degree of compaction, the Contractor shall correct such conditions and the Testing Laboratory shall make additional test in order to verify that the corrected work has been satisfactory. The Testing Laboratory shall provide four (4) certified copies of all test reports.

D. All other fill and backfill material shall be placed in layers not exceeding 8", and each layer shall be thoroughly compacted with mechanical rollers or other approved mechanical devices. Compact fill and backfill in areas inaccessible to rollers with mechanical tampers. All slopes shall be compacted:

1. Ten feet around buildings, within buildings, and within parking areas and drives shall be compacted to a density of not less than 95%.

2. Planting and lawn areas shall be compacted to a density of not less than 85%.

2.05 GRADING

A. New finish grades are shown on the Drawings. All areas where earth is disturbed by grading and construction operations under this Contract, except where paving and drives are to be constructed, shall be properly graded for seeding. The extent of grading for paving, walks, and drives shall be as shown on the Drawings.

B. Uniformly spread and rake topsoil to the levels indicated on the Drawings and to an even smooth surface ready for Seeding. Grades not otherwise indicated shall be of uniform levels or slopes between points where elevations are given. Grading around the building shall be sloped to drain away from the building in all instances.

2.06 EROSION AND SEDIMENT CONTROL

All work shall be performed in accordance with the applicable requirements of the Virginia Erosion and Sediment Control Handbook, as shown on the Drawings and required by the Town during construction.

END OF SECTION

SECTION 119

TRENCHING, BACKFILLING, AND COMPACTING

PART 1 GENERAL

The Work covered under this Section consists of furnishing all labor, equipment, and materials necessary to complete all excavation, backfilling, and compacting to trenches for pipelines and associated structures as required for work covered by these specifications.

1.01 RELATED REQUIREMENTS

Section 101; Regulatory Requirements

PART 2 PRODUCTS

INCLUDED IN PART 3

PART 3 EXECUTION

3.01 CLEARING

The sites of work shall be cleared of all trees, shrubs, paving and objectionable material which interfere with prosecution of proposed work. Trees and shrubs which will not interfere with construction shall be protected from damage. Clearing of site will be considered as an incidental item of excavation.

3.02 CLASSIFICATION OF EXCAVATED MATERIALS

All excavated materials shall be unclassified except Rock Excavation. Prices bid for the various sizes of pipe shall include excavating and backfilling.

3.03 STOCKPILING EXCAVATED MATERIAL

All excavated material shall be stockpiled in a manner that will not endanger the Work and that will prevent obstruction of driveways, gutters, and natural water courses. Hydrants under pressure, valve pit covers, valve boxes, or other utility controls shall be left unobstructed and accessible at all times. Topsoil shall be stockpiled separately to guarantee its replacement at the top of the backfill trench.

3.04 SHEETING AND SHORING

Sheeting and shoring shall be furnished in accordance with the provisions of OSHA and as necessary to construct and protect the excavation, structures of all types, and as necessary for the safety of the employees.

3.05 DEWATERING

Where conditions are such that running or standing water occurs in the trench bottom or the soil in the trench bottom displays a "quick" tendency, the water should be removed by pumps and suitable means such as well points or pervious underdrain bedding until the pipe has been installed and the backfill has been placed to a sufficient height to prevent pipe flotation.

3.06 HIGHWAY RIGHTS-OF-WAY

Work within existing or proposed Town Rights-of-Way shall meet all requirements of the Town's Department of Public Works and VDOT Standards and Specifications.

3.07 MATERIAL

A. Select Material:

Backfilling shall normally be done with the earth removed from the trench or excavation, provided that the excavated material is suitable for backfilling. Suitable material for select backfill shall be construed as material that classifies as select material Type I or II according to Section 208 of the VDOT Road and Bridge Specifications. No material other than select backfill shall be used for backfilling until the pipe or other structure has one foot or more cover, unless otherwise specified. Above that, except for the last two feet, small stones not larger than 6 inches in their greatest dimension, will be permitted in an amount not in excess of 20 percent of the volume of backfill material, and such stones shall be well distributed throughout the mass.

B. Unsuitable Material:

Material such as clay mass, frozen materials, cinders, ashes, refuse, and vegetable or organic material shall be construed as unsuitable material for backfill.

C. Approved Granular Material:

Granular material shall be well graded crushed stone meeting the requirements of Gradation 57 or 68 as specified in Section 203 of the VDOT Road and Bridge Specifications.

3.08 EXCAVATION FOR TRENCHES

A. General

All excavation for trenches shall conform to the lines and grades shown on the approved drawings. Excavated material shall be removed and used for backfilling where suitable.

B. Ductile Iron and PVC Pipe

The trench shall be excavated to a level below the established pipe grade in accordance with the requirements for bedding as specified below. Bell holes shall be provided at each joint to permit proper joint assembly and pipe support. Any part of the trench bottom that is excavated below the required level shall be backfilled with approved granular material and compacted to a minimum 95 percent of maximum density as determined by AASHTO T-99.

3.09 TRENCH WIDTH

Trench width at the ground surface may vary with and depend upon depth, type of soils, and position of surface structures. The minimum clear width of the trench, sheeted or unsheeted, measured at the springline of the pipe should be one foot greater than the outside diameter of the pipe. **The maximum clear width of the trench at the top of the pipe should not exceed a width equal to the outside pipe diameter plus three (3) feet.** If the above defined trench width must be exceeded or if the pipe is installed in a compacted embankment, pipe embankment should be compacted to a point of at least 2.5 pipe diameters from the pipe on both sides of the pipe or the trench walls, whichever is less. Excavation at manholes and similar structures shall be sufficient to provide 12 inches in the clear between the outside of the structure and the embankment or sheeting.

3.10 UNSUITABLE SUBGRADE

When an unstable foundation is encountered which will not provide adequate pipe support, additional trench depth shall be excavated to a stable foundation and backfilled with approved granular material.

3.11 BEDDING

Ductile Iron Pipe shall be laid in a flat bottom trench on undisturbed earth. If rock is encountered at the bottom of the trench, bedding shall be a minimum of eight inches approved granular material in accordance with above.

3.12 BACKFILLING TRENCHES

A. General:

All trenches shall be backfilled immediately after the pipes and appurtenances are laid therein, with the exception of pressure pipe, where joints are to remain uncovered until after pressure testing is completed. The equipment used for compaction of backfill shall be subject to approval by the Engineer.

B. Initial Backfill:

Initial backfill shall begin at the bottom of the trench to the centerline of the pipe and shall be placed in 3-inch layers and compacted by hand or by approved mechanical tampers or other approved means. Backfilling material shall be deposited in the trench for its full width on each side of the pipe, fittings, and appurtenances to a level of at least one foot above the crown of the pipe, the trench shall be backfilled by hand in 6-inch layers and thoroughly compacted, using special care to avoid injuring or moving the pipe, or damaging any coatings on the pipe. Initial backfill shall be compacted to a minimum 95 percent of maximum density as determined by AASHTO T-99. No lumps greater than two inches in diameter shall be allowed in initial backfill material.

C. Final Backfill:

1. General:

Backfill for trenches not subjected to vehicular traffic shall be placed in layers no greater than one foot thick and compacted to at least 85 percent maximum density as determined by AASHTO T-99. Topsoil (in grassed areas) shall be deposited in the final layer of backfill to guarantee the areas will be returned to original or better conditions.

2. Roadways:

Backfill in and along roadways shall be placed in layers no greater than six inches and compacted to at least 95 percent maximum density as determined by AASHTO T-99.

3.13 COMPACTION TESTS

The Contractor shall employ a reputable testing laboratory at the Contractor's expense, approved by the Engineer. Compaction tests for sewer and water lines are to be taken as follows in and along roadways: (95%)

A. A minimum of one between each manhole section one foot above the sewer line, or every 100-foot distance between manholes; whichever is the greater number of compaction tests needed. For water line construction, a minimum of every 100 feet, one foot above the water line.

B. A minimum of one compaction test between each manhole section at the final aggregate base 9 inches below the final bituminous surface course finished elevation or every 100 foot distance between manholes; whichever is the greater number of compaction tests needed. For water line construction, a minimum of every 100 feet at the final aggregate base 9 inches below the final bituminous surface course finished elevation.

C. A minimum of one compaction test at final grade area under each manhole base unit.

3.13 RESTORATION

A. Pavement Replacement:

Existing pavement which has been cut, damaged, or removed during construction shall be replaced in accordance with the VDOT Road and Bridge Specifications and highway permit.

B. Finished Grading and Clean Up:

Where possible, the ground surface shall be left rounded and slightly higher than the surrounding ground to allow for future settlement. Finished areas around structures shall be graded smooth and hand raked and shall meet the elevations and contours as shown on the Drawings. All lumber, earth clods or rocks larger than three inches and other undesirable materials shall be removed from the site at the completion of construction. Clean up shall be done as promptly as practicable and shall not be left until the end of the construction period.

C. Keep the area of Work cleaned up at all times and promptly remove all materials and debris not intended for incorporation in the Work. Broom clean the surfaces of all paved areas immediately after backfilling operations.

D. Maintain backfilled trenches from the nuisance of dust, mud or settling during the entire length of the Contract and for a period of one year following Final Acceptance of the Work.

E. In the event the Contractor fails to satisfy these requirements to the satisfaction of the Engineer, or otherwise prosecute the Work in a reasonable or proper manner, and after a reasonable period of time has elapsed after notification by the Engineer of unsatisfactory conditions, the Owner reserves the right to employ services to take such corrective action as deemed necessary by the Engineer. The cost incurred in taking corrective actions will be deducted from any monies due the Contractor by the Owner or such other means of collection as may be available to the Owner.

F. Shoulder stone may be required by the Town on a case by case basis. Shoulder stone shall be placed at all driveways (if not paved), and mailboxes.

G. All paved and graveled parking areas and paved roads disturbed during the construction shall be repaired within one (1) week of the installation and backfill of the water lines and/or service line. "Cold patch" will be allowed as a temporary method for the repair of the disturbed pavement. "Cold patch" shall be required at all major intersections and thoroughfares at the end of the working day.

END OF SECTION

SECTION 120

FINISH GRADING

PART 1 GENERAL

1.01 SCOPE

Spreading of topsoil to finish grade.

1.02 RELATED REQUIREMENTS

Section 116; Sitework Procedures

1.03 SUBMITTALS

Certification by a registered Civil Engineer or Certified Land Surveyor that the general grading has been completed and the resulting grade elevations are in substantial conformity with the Plans and Specifications.

PART 2 MATERIALS

Topsoil shall be reasonably free from subsoil, debris, dirt clods, and stones larger than three inches in diameter. In the event there is insufficient topsoil on site, the contractor may use other types of soil deemed adequate by the Engineer for seed germination.

PART 3 EXECUTION

3.01 FINISH

The surface of the topsoil shall be even and free from irregularities and have proper drainage.

3.02 EXCESS

Excess topsoil shall be removed from the site or stored on site as directed by Owner.

END OF SECTION

SECTION 121

PAVEMENT RESTORATION

PART 1 GENERAL

The work covered under this section consists of furnishing all labor, equipment, and materials necessary to perform all required paving and pavement patching required by the Contract Documents.

1.01 RELATED REQUIREMENTS

A. Section 119; Trenching, Backfilling and Compacting

B. Section 122; Street Construction

1.02 REFERENCE SPECIFICATIONS

Reference specifications, where applicable to work under this Section, are referred to by abbreviation as follows:

A. American Association of State Highway & Transportation Official - AASHTO

B. Virginia Department of Transportation - VDOT.

1.03 PERMITS

All work will be in accordance with a Virginia Department of Transportation Highway Construction Permit obtained by the Owner.

PART 2 PRODUCTS

2.01 BASE AGGREGATE:

Base Course Aggregate shall be Type 1, Graded Aggregate Base Material as defined in Section 209, Subbase and Aggregate Base Material, of the VDOT Specifications. Aggregate size shall be 21A.

2.02 CONCRETE

Concrete shall be in accordance with VDOT Road and Bridge Specifications.

2.03 PRIME COAT

Prime Coat shall be Grade RC-250 Bituminous Material as defined in Section 211, Bituminous Material, of the VDOT Specifications. Application rate shall be 0.35 gal/sq. yd.

2.04 TACK COAT

Tack Coat shall be emulsified Asphalt RS-1, meeting requirements of AASHTO —140. Application rate shall be 0.07 gal/sq. yd.

2.05 BITUMINOUS BASE COARSE

Bituminous Base shall be Type BM-25.0 Bituminous Concrete as defined in Section 212, Bituminous Concrete, of the VDOT Specifications.

2.06 BITUMINOUS SURFACE COARSE

Bituminous Surface shall be Type SM-9.5A Bituminous Concrete as defined in Section 212, Bituminous Concrete, of the

VDOT Specifications.

2.07 BITUMINOUS SURFACE TREATMENT

A. Prime Coat. Cut-back asphalt CRS-2 meeting the requirements of AASHTO M81. Application rate shall be 0.35 gal/sq.yd.

B. Prime Coat Cover Aggregate. VDOT No. 78 or No. 8 Stone. Application shall be 30 lbs/sq. yd.

C. Seal Coat. Cut-back Asphalt CRS-2 meeting the requirements of AASHTO M81. Application rate shall be 0.25 gal/sq. yd.

D. Seal Coat Cover Aggregate. VDOT No 78 or No. 8 Stone. Application shall be 25 lbs/sq. yd.

2.08 CRUSHER RUN AGGREGATE

Crusher Run Aggregate shall be VDOT No. 26 as defined in Section 206, Crusher Run Aggregate, of the VDOT Specifications.

2.09 COURSE AGGREGATE

Course Aggregate shall be VDOT No. 1 Stone as defined in Section 203, Course Aggregate, of the VDOT Specifications.

PART 3 EXECUTION

3.01 RESTORATION OF PAVEMENT

A. All existing pavement disturbed by the installation of the work shall be restored as hereinafter specified. Materials and methods of construction shall conform to applicable provisions of the Virginia Department of Highways and Transportation Road and Bridge Specifications. Pavement which shows signs of failure or other defects after completion of restoration shall be removed and replaced by the Contractor at his own expense.

B. When pavement, curb and gutter or sidewalks must be cut, make the cut (saw cut only) in a smooth straight line, parallel to the pipe and 6 inches wider than trench, on each side, to provide an undisturbed shoulder under the new work.

C. Where trenches cross streets, unless specified elsewhere to the contrary, disturb no more than one-half of the street width at one time, and restore the first opening to satisfactory travelable condition before the second half is excavated. Avoid placement of excavated material on existing pavement whenever possible. Clean the pavement by an approved method. Use no cleated equipment on pavements. Alter normal traffic flow only as allowed under VDOT Permit.

D. Do not block private entrances except for short periods, and maintain ingress and egress to adjacent property.

E. Do not clog street drainage. Maintain shoulders, gutters and ditches affected by trenching operations to carry drainage flows.

F. Prepare subgrade by grading and compacting immediately prior to placing the Aggregate Base Course. The surface shall be true to line and grade and shall be checked with suitable templates or other approved method. Construction methods and equipment shall meet requirements of applicable portions of Section 305, Subgrade and Shoulders, of the VDOT Specifications.

G. Where trenches have been opened in any roadway or street that is part of the State of Virginia highway system, the pavement shall be restored in accordance with the requirements of the Virginia Department of Highways and Transportation, except that in no case shall the paving restoration be less than required for

Class "A" Restoration below.

H. Where trenches have been opened in any roadway or street other than those part of the State of Virginia Highway System, the pavement shall be restored by one of the following classes of restoration as directed by the Engineer.

1. Class "A" Restoration: The existing paved surface shall be cut (saw cut only) vertically and horizontally in a smooth straight line to present a neat appearance. The paved surface shall be removed and all saw cut edges shall be tacked with CRS-2 or RC-250 Asphalt Materials or approved equal. The application of the tack shall be under the direction of the Town Engineer or his authorized representative. The trench shall be backfilled as specified and the top 18 inches of the trench shall be filled with 12-inch aggregate base course (compacted to 95 percent by AASHTO Standard T-99) of 21A or approved equal, and 6 inches of BM-25.0 Bituminous base course and 1.5 inches of SM-9.5Bituminous surface course to bring the level to the top of the existing pavement.

2. Class "B" Restoration: The existing paved surface shall be cut (saw cut only) vertically and horizontally in a smooth straight line to present a neat appearance. The paved surface shall be removed and all saw cut edges shall be tacked with CRS-2 or RC-250 Asphalt Materials or approved equal. The application of the tack shall be under the direction of the Town Engineer or his authorized representative. The trench shall be backfilled as specified and the top 10 inches of the trench shall be filled with 6-inch aggregate base course (compacted to 95 percent by AASHTO Standard T-99) of 21A or approved equal, a 4 inch minimum BM-25.0 Bituminous base course. This paving shall be maintained on grade until the Town Engineer or his authorized representative directs that permanent surface course shall be placed. The permanent surface course shall be a double bituminous surface treatment bonded to match the existing pavement with an 8-inch overlap on each side of the trench edges and 3 feet beyond the end of the trench.

I. Where the surface of the existing pavement of any street, road, or alley is damaged outside the trench area by the Contractor during construction, as determined by the Road Engineer, the Contractor shall restore the damaged pavement (either Class "A" or Class "B" restoration as directed by the Town Engineer) at no cost to the Owner.

3.02 MAINTENANCE OF RESTORED PAVEMENT

The Contractor shall maintain at his own expense all refilled excavations and restored pavement in proper condition until the end of the one-year period following the date of final acceptance of the work. All depressions appearing shall be properly refilled, brought to grade and pavement restored. If the Contractor shall fail to do so within a reasonable time after the receipt of written notice from the Engineer, the Engineer may refill and restore said depressions and the cost thereof shall be charged to the Contractor. In case of emergency, the Owner may refill and restore any dangerous depressions without giving previous notice to the Contractor and the cost of do doing shall be charged to the Contractor.

3.03 RESTORATION OF PRIVATE ENTRANCES

Restore private entrances to the original condition or provide no less than 4 inches of crusher run stone, whichever condition is better.

3.04 RESTORATION OF CONCRETE CURBS

Restore concrete curbs, gutters, sidewalks, paved ditches and driveways disturbed by construction to the original condition. Restoration shall be done in full sections. Patching or piecing of sections will not be permitted.

3.05 RESTORATION OF BRICK OR COBBLE PAVEMENTS

Brick, cobble or other types of pavement shall be restored to match the existing pavement.

3.06 RESTORATION OF UNPAVED ROADS

All unpaved roads or traveled rights-of way shall be restored with a 12 inch minimum soil aggregate surface course, Gradation "C", properly compacted and bonded.

3.07 PAVEMENT MARKING

Traffic and lane marking will be painted or repainted by the Owner.

3.08 GENERAL

A. Upon completion of construction work and after spoils and debris have been removed. Regrade any areas disturbed by operations.

B. The Contractor shall be responsible for any injury or damage that may result from improper maintenance of any refilled excavations at any time previous to the end of the above-mentioned one-year period.

END OF SECTION

SECTION 122

STREET CONSTRUCTION

PART 1 GENERAL

The work includes providing all clearing and grubbing, excavation and embankment, grading and preparing subgrade, aggregate base course, bituminous base and surface courses, curb and gutter, walks, entrances, seeding, sodding and other incidental work required for roadway construction.

1.01 RELATED REQUIREMENTS

A. Section 119; Trenching, Backfilling and Compacting

B. Section 121; Pavement Restoration

1.02 REFERENCE SPECIFICATIONS

Reference specifications, where applicable to work under this Section, are referred to by abbreviation as follows:

A. American Association of State Highway & Transportation Officials - AASHTO

B. Virginia Department of Transportation - VDOT

1.03 PERMITS

All work will be in accordance with a Virginia Department of Transportation Highway Construction Permit obtained by the Owner.

PART 2 EXECUTION

2.01 MATERIALS AND CONSTRUCTION METHODS

A. All materials and construction shall be in accordance with the Virginia Department of Highways and Transportation, Road and Bridge Specifications and the Virginia Department of Highways and Transportation, Road Designs and Standards except as modified by the Town of Warrenton Standards or the Contract Drawings and Specifications.

B. The right-of-way must be fully cleared, all utilities must be in place, the roadway must be graded to the proposed typical section and all compacting requirements must be met prior to the application of any paving materials.

C. All unpaved areas within the right-of-way limits and/or limits of work shall be top soiled and seeded final acceptance will not occur until a proper growth of grass has been established.

D. Curb cut ramp (handicap ramp) shall be constructed in accordance with Standard CG-12 of the Virginia Department of Highways and Transportation, Road and Bridge Standards.

2.02 INSPECTION AND TESTING

A. Only materials meeting the requirements of these specifications shall be used. They may be subjected to preparation or use and each of the materials shall be subject to approval by the Engineer at the source of supply or upon delivery, as applicable. Any work in which untested materials are used without approval may be considered as unacceptable and the work may be disapproved by the Engineer.

B. The Contractor shall employ a reputable Testing Laboratory approved by the Owner to perform the tests

herein specified and to certify the results of the tests. Samples for testing shall be furnished by the Contractor at his expense and will be taken as directed by the testing laboratory, the Owner, or the Engineer.

C. The following Schedule of Tests shall be followed unless modified by the Engineer.

MATERIAL	TYPE OF TEST	NO. REQUIRED
Subgrade	AASHTO Maximum Density T-99 Method A	1-each type mat'l
		Field Density ASTM D2167 1 per 2000 s.y.
Subgrade	California Bearing Ratio (CBR) VTM-8	2 per project
Aggregate Base	AASHTO Maximum Density T-99-Method A	1 per job
	Field Density ASTM D2167	1 per 2000 s.y.
Bituminous		AASHTO Maximum Density T-99
		1 per job
Concrete	Field Density ASTM D2167	1 per 2000 s.y.
Portland		Slump
		1 each truck
Cement		Concrete cylinders
		as directed
Concrete		

LOCATION	TYPE OF TEST	NO. REQUIRED
Final grade area under each structure unit	AASHTO Maximum Density T-99 Method A Field Density ASTM D2167	1 per structure minimum
Final grade area under each structure unit	AASHTO Maximum Density T-99 Method A Field Density ASTM D2167	1 per 100 LF minimum
Final grade area under	AASHTO Maximum Density T-99 Method A	1 per 100 LF
		Field Density ASTM D2167
		minimum
storm culverts		

END OF SECTION

SECTION 124

MANHOLES

PART 1 GENERAL

1.01 RELATED REQUIREMENTS

A. Section 102; Lines and Grades

B. Section 108; Shop Drawings, Product Data

A. Section 119; Trenching, Backfilling & Compacting

1.02 QUALITY ASSURANCE

Comply with all applicable codes and regulations as required by regulatory agencies having jurisdiction over this Work. Comply with the pertinent sections of the following standards:

A. ASTM - American Society of Testing and Materials

B. AASHTO - American Association of State Highway and Transportation Officials

C. ACI - American Concrete Institute

1.03 SUBMITTALS

Shop drawings and product data for manholes and cleanouts, and related accessories.

PART 2 PRODUCTS

2.01 MANHOLES

A. General:

Manholes shall be constructed of pre-cast concrete with cast iron frames and covers as shown on the contract drawings. Pre-cast manholes shall conform to ASTM C478. Base sections shall be pre-cast and shall be of the "tub" type that extends above the top of the pipe. Base sections and risers shall be furnished for installation with bell end up.

Pre-cast manholes shall be manufactured by Virginia Pre-cast Corp., Gray Concrete Pipe Co., or approved equal. A flexible, all-weather joint sealant such as M-30, Flex-Tyte Butyl by Delta Pipe Products or approved equal, thickness to be recommended by manufacturer is to be used between all manhole joints, manhole frames and tops of frames. All reinforcing steel shall conform to ASTM C443 or C361. Manholes shall be provided with galvanized iron, rubber-coated steps which shall be constructed in accordance with Standard ST-1 of the Virginia Department of Highways and Transportation, Road and Bridge Standards.

B. Types of Manholes:

Manholes shall be of two types and construction shall be as indicated on the contract drawings. A shallow type manhole shall be constructed at all locations shown where the depth of the invert of the lowest line to grade does not exceed four feet. Standard type manholes shall be constructed where invert of lowest line is 4 feet or greater to grade line. Construction shall be as shown on contract drawings.

C. Manhole Frames and Covers:

Manhole frames and covers shall be in accordance with requirements shown on the drawings. They shall conform to the current ASTM A-48, Class 30A, 30B, or 30C and shall be of such quality and composition to make the metal of the casting strong, tough and of even grain. Frames and covers shall be smooth, free from scale, lumps, blisters and sand holes and shall be factory coated with asphalt varnish and shall be constructed in accordance to Drawing S-5 of the Town's PFM. No plugging or filling will be allowed. The word **" STORM SEWER"** shall be cast in the cover so as to be plainly visible. The manhole frames and covers shall be set so that the top of the cover will be flush with the finished grade. Combined weight of manhole frame and cover shall not be less than 350 pounds. Frames and covers shall have the bearing surfaces machine to prevent rocking. Standard Manhole frames and covers shall be Neenah Standard Catalog number R-1401-A, or equal. Watertight manhole frames and covers shall be Neenah standard catalog number R-1755-C, or equal.

D. Invert Channels:

Invert channels shall be smooth and semi-circular in shape, conforming to the inside of the adjacent sewer section. Changes in direction of flow shall be made with a smooth curve of as large a radius as the size of the manhole will permit. The invert channels in cast-in-place bases shall be formed directly in the concrete of the base or shall be built up with brick and mortar or grout. The invert channels in pre-cast bases shall be formed with grout or brick and mortar. Floor of the manhole outside of the channels not less than one foot nor more than two inches per foot.

END OF SECTION

SECTION 130

SANITARY SEWER SPECIFICATIONS

Part 1 Scope of Work

The work includes providing all piping, manholes and other appurtenances required for a complete sanitary sewer system.

1.01 MATERIALS:

A. All type and class of pipe shall be indicated on the project plans.

B. Polyvinyl Chlorine pipe (SDR 35 or schedule 40) for house sewer shall conform to ASTM D 3034 as modified herein. Joints shall be elastomeric gasket joints resulting in watertight seals.

C. Pre-cast concrete manhole sections shall conform to ASTM Specification C478. Joints shall be made with O-ring type rubber gaskets conforming to ASTM Specification C443 or C361.

D. Pre-cast concrete segmental blocks shall conform to ASTM Specification C139. Cement used in the manufacture of the blocks shall conform to ASTM Specification C150, type II. Blocks shall be not less than five inches (5") wide and eight inches (8") long, or proper radius and shaped for sealing and bonding joints with mortar.

E. Mortar shall be one part of Portland cement conforming to ASTM Specification C150, Type II, and two (2) parts of said conforming to ASTM Specification C144, with enough water added to produce mortar of the proper consistency for the type of joint. For brickwork, lime may be added to the mortar in the amount of not more than twenty-five percent (25%) of the volume of cement.

F. Grout shall conform to the requirements specified for mortar except that the proportion shall be one part of Portland cement and three parts of sand.

G. Cast iron manhole frames and covers and cast iron steps shall conform to ASTM Specification A48, Class 30A, 30B or 30C and shall be factory coated with asphalt varnish.

H. Polyvinyl chloride pipe and fittings four inches (4") through fifteen inches (15") in diameter shall meet the requirements of ASTM D 3034 as modified herein.

1. Pipe with blisters, bubbles, cuts or scrapes on inside or outside surfaces, which appreciably damage the wall thickness, or other imperfections which impair the performance or life of the pipe will be rejected.

2. Joints shall be elastomeric gasket joints resulting in watertight seals.

1.02 FACTORY TESTS:

A. Pipe proposed for use shall be factory-tested in accordance with the requirements of the applicable Specification referenced hereinbefore for the pipe.

B. The Contractor shall furnish sworn statements from the pipe manufacturers that the inspection and tests specified in the referenced standards, including basic tests required by the standard and option tests as specified herein, have been made and that the results of such inspections and tests comply with the requirements of the applicable standard. In addition, actual test results shall be submitted to the Engineer as directed. No pipe shall be considered for use on the project until the manufacturer's certification, and test results when required, have been approved by the Engineer.

1.03 LAYING PIPE:

A. Pipe shall be laid to a true uniform line and grade from elevations indicated or as directed. Such grades and

elevations shall indicate the position of the invert of the pipe. Not less than three (3) batter boards, or their equivalent, shall be maintained between any two (2) manholes at all times during the pipe laying operations. All work shall be done in strict accordance with the recommendations of the manufacturer of the pipe.

B. Pipe laying shall proceed up-grade with the spigot ends pointing in the direction of flow. Each section of pipe shall be laid in such a manner as to form a close concentric joint with the adjoining sections and to prevent sudden offsets in the flow line. Each section of pipe, as it is laid, shall be backfilled sufficiently to hold it firmly in place.

C. As the work progresses, the interior of the sewer shall be cleared of all dirt and superfluous materials of every description. Where cleaning after laying is difficult because of small pipe size, a suitable swab or drag shall be kept in the pipe and pulled forward past each joint immediately after the jointing has been completed.

D. All trenches and other excavations shall be kept free of water during construction and until final inspection. No pipe shall be laid in water, nor shall water be allowed to rise over the pipe joints until the joints are tight. It is not intended by this stipulation that a dry trench will be required, but it is intended that water which might in any way have a harmful effect on the joint shall be excluded from the excavations.

E. At times when work is not in progress, open ends of pipe and fittings shall be securely closed with approved plugs or caps to prevent trench water, earth or other substances from entering the pipes or fittings.

F. All pipe and fittings shall be handled with care at all times to avoid damage. All such materials shall be carefully inspected for defects before being lowered into the trench.

G. All pipe in areas of fill shall not be laid in areas of fill until grading is complete unless the depth of cover is at least 12" below existing ground line for ductile iron pipe and 36" below existing ground line for pipes of other materials.

1.04 JOINTING:

A. General: The Contractor shall obtain the field services of experienced and qualified representatives of the manufacturer whose products are approved for the work to instruct the Contractor's personnel in the proper jointing procedure to be used to secure the best possible joints with the materials selected. The pipe manufacturer shall furnish the contractor and the Engineer a suitable manual covering the recommended procedure for pipe jointing.

B. Joints shall be installed in strict accordance with the recommendations of the pipe manufacturer.

C. Joints between any nonmetallic sewer pipe and cast iron pipe, and between new and existing lines shall provide a tight connection and shall be made with standard adapters or other approved methods.

1.05 CONNECTIONS TO EXISTING MANHOLES:

Pipe connections to existing manholes shall be made by core drill opening in such a manner that the finished work will conform as nearly as practicable to the essential applicable requirements for new manholes, including all necessary concrete work, cutting, shaping and rechanneling. The connection of the sewer line into the manhole is to be made by a press seal gasket.

1.06 MANHOLES:

Manholes shall conform to Section 302.09 of the Town's PFM.

1.07 TESTING AND LATERAL CONNECTIONS FOR SEWERS

All connections and testing of sewer mains shall conform to applicable sections under Section 302 of the Town's PFM.

END OF SECTION

SECTION 140

WATER MAIN SPECIFICATIONS

PART 1 SCOPE OF WORK:

The work includes providing all piping, fittings, valves, valve boxes, hydrants, anchorage, and all other appurtenances required for a complete water distribution system.

1.01 MATERIALS:

A. All materials shall be suitable for one hundred and fifty pounds per square inch (150 psi) water working pressure unless indicated otherwise.

B. Ductile iron pipe shall conform to AWWA Standard Class 52. Ductile iron fittings shall conform to AWWA Standard C110. Pipe and fitting shall be cement line and shall have mechanical joints or push-on joints conforming to AWWA Standard C111.

C. Class of Pipe: The minimum thickness of ductile iron pipe shall be Class 52 in accordance with AWWA Standard H1 or H3.

D. TECHNICAL SPECIFICATIONS WATER MAIN MATERIALS (PVC-SDR 18-Water Pipe and Etc.)

1. PVC (SDR 18) Pipe shall be Class 150 polyvinyl chloride plastic furnished in twenty-foot (20') nominal lengths. Such pipe shall have a four to one (4 to 1) safety factor at its recommended maximum working pressure. This pipe shall conform to AWWA Specification C.900 for PVC pressure pipe, four inches (4") through twelve inches (12"). Outside diameter shall be compatible with cast iron pipe. Joints shall be the push-on type, such as "Ring Tite" or equal, with rubber rings conforming to ASTM D3139 and ASTM F477.

2. Fittings: All fittings for pipe shall be mechanical joint, ductile iron in compliance with AWWA C.110. When connecting any PVC pipe to a cast iron bell or fitting, the pipe end shall be prepared for installation in accordance with the manufacturer's directions.

3. Lubricant: Lubricant for joints shall be that supplied by the manufacturer of the pipe being used. If PVC pipe is used, the lubricant for PVC pipe shall be used at joints with valves, fittings, hydrants, or other pipe materials. With PVC pipe, no lubricant harmful to polyvinyl chloride plastic shall be used.

E. GATE VALVES: Valves shall be cast iron body, resilient seated with reinforced rubber seat ring or permanently bonded disc, and machined seating surface, brass or bronze non-rising stems, and complying with AWWA C.509. Body shall be self-centering or shall have guides for alignment of wedge disc and have internal epoxy coating approved for potable water. Working pressure shall be at least two hundred pounds per square inch (200 psi) for valves twelve inches (12") in diameter and smaller. Valves shall have "O" ring seals and shall open left (counter clockwise) with a two-inch (2") square wrench nut. Valve ends shall be of mechanical joint type with all bolts, glands, and rubber gaskets furnished in the price of the valve. Valves shall be equal to Mueller or equal gate valves as manufactured by Kennedy or Clow. Valves smaller than four inches (4") shall have screw ends and are to be a gate type valve.

F. VALVE BOXES USED WITH PVC PIPE: Adjustable cast iron valve boxes of suitable diameter, length, and design shall be furnished and installed for all buried valves. Boxes shall be three-piece screw type, with No. 8 or larger round base similar to Buffalo type Mueller No. H-10357 or approved equal.

G. TIE RODS: Three quarters of an inch (3/4") all thread steel rods for hydrant clamping shall be galvanized or otherwise rustproof treated. Compatible tie bolts and nuts or clamps shall be similarly rustproof treated. Reinforcing steel shall not be accepted.

H. METALLIC MARKING TAPE: Detectable mylar marking tape shall be similar to Lineguard, Inc. utility marking tape, Type II or approved equal. The tape shall bear the printed identification "Caution: Water Line Below." The printing shall be under mylar (reverse printed) so as to be readable through the clear mylar. The tape shall be "Blue" in color and shall be two inches (2") or one and one half inches (1-1/2") in width, supplied in one thousand (1,000') foot rolls. (In addition to the above locating wire maybe required by the Engineer.)

I. Valve boxes shall be cast-iron screw type with adjustable extension pieces, flared base and minimum thickness of three-sixteenths of an inch (3/16"). The word "water" shall be stamped on cover. Boxes shall be Mueller or approved equal. To be used with ductile iron pipe.

J. Fire hydrants shall be dry top, dry barrel, compression type with valve opening of five and one quarter inches (5-1/4") , double O-ring seals and safety flange, stem coupling and sleeve, and shall conform to AWWA Standard C502. Hydrant valve shall close with the water pressure. Hydrants shall have two (2) two and one half inch (2-1/2") hose nozzles and one (1) four and one half inch (4-1/2") pumper nozzle with National Standard threads, six inch (6") mechanical joint inlet connection, National Standard one and one half inch (1-1/2") pentagon operating nut and outlet nozzle cap nuts, chains on outlet nozzle caps, and harnessing lugs. Hydrants shall open to the left (counterclockwise). Hydrants shall be Mueller Co. No. A-423 Centurion or approved equal.

K. Copper pipe shall conform to Federal Specification WW-T-799, Type K, with Wrought copper fittings and BOCA Plumbing Code.

L. Corporation stops and curb stops shall conform to AWWA requirements and shall be suitable for copper service pipe. Stops shall be Mueller or approved equal.

M. SERVICE CONNECTIONS

1. Service Lines shall be three quarter inch (3/4") (unless otherwise indicated) Type "K" seamless, soft copper tubing, having the ability to be flared and in conformance with ASTM Specification B-88. Adapters shall be supplied as needed in reconnecting existing services.

2. Corporation Stop: Corporation stops shall be three quarter inch (3/4") (unless otherwise indicated) with inlet threads conforming to AWWA C-800, commonly known as the "Mueller" thread, and the outlet compatible with service pipe similar to Mueller No. H-1500 for copper service. Tapping saddles are required for all PVC pipe. Pipe dope or any other materials that contain solvents or components which may be harmful to PVC pipe shall not be used in conjunction with PVC pipe.

3. Tapping Saddles: Saddles shall have cc tap, be made of malleable material and have flat straps. Rubber gaskets shall be required for all pipe sizes and classes. Lead gaskets will not be allowed. Saddles shall provide full support around the circumference of the pipe and have a bearing area of sufficient width along the axis of the pipe, one and one half inch (1-1/2") minimum. Saddles shall not have lugs that will dig into the pipe when the saddle is tightened. The U-bolt type of strap that does not provide sufficient bearing area will not be allowed. Saddles shall be as the Dresser No. 91 double strap for C. I. diameters, or approved equal.

N. A post indicator valve shall be required on the exterior of all buildings equipped with a sprinkler system.

1.02 FACTORY TESTS AND COMPLIANCE STATEMENTS:

Pipe, valves and hydrants proposed for use shall be factory tested in accordance with the requirements of the applicable AWWA Standard referenced herein. The Contractor shall furnish sworn statements from the manufacturers that the inspection and tests specified in the referenced standards have been made and that the results of such inspection and tests, as well as the basic materials, manufacturing and assembly, comply with the requirements of the applicable standard. In addition, actual test results shall be submitted to the Engineer as directed. No pipe, valve or hydrant shall be considered for use in the contract until the manufacturer's certifications, and test results when required, have been approved by the Engineer.

1.03 HANDLING PIPE AND ACCESSORIES:

Pipe, fittings, valves and accessories shall be loaded and unloaded by lifting with hoists or skidding so as to avoid shock or damage. Under no circumstances shall such materials be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground. In distributing the material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench. Pipe shall be handled so that the coating and lining will not be damaged. Damaged coating and lining shall be cause for rejection of the pipe and shall be replaced or repaired.

1.04 LAYING PIPE:

A. Installation of pipe and fittings shall be in accordance with AWWA Standard C600 and BOCA Plumbing Code, except as specified or indicated otherwise. The water main shall be laid to a true uniform line and grade from elevations indicated or directed. Unless indicated otherwise, the depth of trench shall be sufficient to provide a minimum cover over the top of the pipe of three and one half feet (3.5') from the existing or proposed ground surface and to avoid interference of the pipeline with other utilities. Pipe shall be laid on continuous grades as indicated or directed to avoid sags or crests in the line.

B. The cutting of pipe for inserting valves, fittings or closure pieces shall be done in a neat and workmanlike manner, without damage to the pipe, so as to leave a smooth end at right angles to the axis of the pipe. Care shall be taken to avoid damaging the lining. Flame cutting of cast iron pipe with oxyacetylene torch will not be permitted.

C. Immediately before lowering the pipe in to the trench, the interior lining and exterior coating will be visually inspected. Pipe with damaged lining or coating shall not be installed.

D. Proper implements, tools and facilities for water main construction shall be provided and used. All pipes, fittings and valves shall be lowered carefully into the trenches by means of derricks, ropes or other suitable equipment. Under no circumstances shall water main materials be dropped or dumped into the trenches. All pipes shall be installed with the bell ends facing the direction of laying and in accordance with the recommendations of the manufacturers of the pipe.

E. Where it becomes necessary to deflect the line of pipe, in either a vertical or horizontal plane, to avoid obstructions, or in locations where long-radius curves are permitted, the amount of deflection shall not exceed that specified in AWWA Standard C600 or paragraph 2-17. Section 4. Deflection at Joints: (most strict standard will govern).

F. Every precaution shall be taken to prevent foreign material from entering the pipe while it is being placed in the line. If the pipe-laying crew cannot put the pipe into the trench and in place without getting earth into it, a heavy, tightly woven canvas bag of suitable size shall be placed over each end of the pipe before lowering the pipe into the adjacent pipe. During laying operations, no debris, tools, clothing or other material shall be placed in the pipe.

G. At times when pipe laying is not in progress, the open ends of pipe shall be closed by a watertight plug or other approved means. This provision shall apply during the noon hour as well as overnight. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.

H. All pipe in areas of fill shall not be laid until grading operation is complete unless the depth of cover is at least 12" below existing ground line for pipes of other materials.

1.05 TESTING, STERILIZATION, SERVICE CONNECTIONS

All testing, main sterilization and service connections shall conform to the applicable sections of Section 202.00 of the Town's PFM.

END OF SECTION

BID SHEET
TOWN OF WARRENTON
RECREATION CENTER
SITE GRADING PROJECT

ITEM	BID QUANTITY	UNIT	BID PRICE	TOTAL
Mobilization	1	LS		
Site Survey	1	LS		
Site Clearing, Demolition, and Preparation	1	LS		
Traffic Control	1	LS		
Flagger Service	50	HRS		
Silt Fence	1500	LF		
Super Silt Fence	1500	LF		
Temporary Check Dam	20	EACH		
Construction Entrance	1	LS		
Construction Creek Crossing	1	LS		
Site Grading	85,000	CY		
15" HDPE Doublewall Storm Pipe	423	LF		
18" HDPE Doublewall Storm Pipe	400	LF		
21" HDPE Doublewall Storm Pipe	329	LF		
24" HDPE Doublewall Storm Pipe	683	LF		
30" HDPE Doublewall Storm Pipe	314	LF		
36" HDPE Doublewall Storm Pipe	627	LF		
42" HDPE Doublewall Storm Pipe	34	LF		
48" HDPE Doublewall Storm Pipe	116	LF		
15" RCP Storm Pipe	244	LF		
18" RCP Storm Pipe	254	LF		
21" RCP Storm Pipe	25	LF		
24" RCP Storm Pipe	220	LF		
36" RCP Storm Pipe	316	LF		
ES-1 End Section	3	EACH		
Manhole MH-1 (Includes DI-1A)				
(<8 ft deep)	1	EACH		
(≥8 ft deep)	2	EACH		

BID SHEET
TOWN OF WARRENTON
RECREATION CENTER
SITE GRADING PROJECT

ITEM	BID QUANTITY	UNIT	BID PRICE	TOTAL
Drop Inlet DI-1				
(<8 ft deep)	11	EACH		
(≥8 ft deep)	1	EACH		
Drop Inlet DI-3(Includes DI-3A,DI-3B,and DI-3C)	6	EACH		
Drop Inlet DI-4BB	1	EACH		
Drop Inlet DI-7				
(<8 ft deep)	4	EACH		
(≥8 ft deep)	2	EACH		
Junction Box JB-1 with DI-1 top	1	EACH		
Class 1 Rip Rap	100	TON		
Lighting Conduit	1500	LF		
Access Road Asphalt Pavement	1401	SY		
Parking Lot Asphalt Pavement	6112	SY		
Asphalt Trail	6075	SY		
Aggregate Trail	718	SY		
Skate/Roller Hockey Pad	2900	SY		
Fine Grade, Seeding, Mulching, and Restoration	1	LS		
Athletic Field Seeding and Mulching	9	ACRE		
			TOTAL BASE BID	

BID SHEET
TOWN OF WARRENTON
RECREATION CENTER
SITE GRADING PROJECT

Optional Bid Items				
Water Supply Line	1175	LF		
Sanitary Sewer Force Main	1190	LF		
Rock Excavation	500	CY		
Install Suitable Fill	500	CY		
Undercut	500	CY		
		TOTAL OPTIONAL BID		

BID SHEET
TOWN OF WARRENTON
RECREATION CENTER
SITE GRADING PROJECT

I am aware that this is a Unit Price Bid and that payment is based on the actual work completed and the quantities listed on this bid sheet are estimates.

_____	_____
COMPANY	TITLE
_____	_____
STREET	PRINTED NAME
_____	_____
CITY, STATE, ZIP	SIGNATURE DATE

EXHIBIT B

TOWN OF WARRENTON, VIRGINIA
GENERAL TERMS AND CONDITIONS
CONSTRUCTION PROJECTS

The following General Terms and Conditions shall become part of all solicitations for construction projects that involve building, altering, repairing, improving or demolishing any structure, building or paving projects, and any draining, dredging, excavation, grading or similar work upon real property. These General Terms and Conditions shall be a part of any such Invitation for Bid/Request for proposal in addition to the General Terms and Conditions - Services.

1. DEFINITIONS:

a. The term "**Town"** shall mean The Town of Warrenton through the governing body or other agent with authority to execute the contract for the Town.

b. The term "**Contractor"** means the person, firm or corporation named such in the contract and includes the plural number and the feminine gender when such are named in the contract as the Contractor.

c. The term "S**ubcontractor"** means only those having a direct contract with the Contractor and it includes one who furnishes material worked to a special design but does not include one who merely furnishes material not so worked.

d. The "**Project Inspector"** means one or more individuals employed or designated by the Town to make inspections, observe progress, approve schedules and accept services under the terms of the contract. The Town shall notify the Contractor in writing of the appointment of such Project Inspector.

2. CONTRACT DOCUMENTS

The contract entered into by the parties shall consist of the Invitation for Bids/Request for Proposals, the signed Bid/Offer submitted by the Contractor, the Town of Warrenton standard contract form or Purchase Order, the General and Special Terms and Conditions, the Specifications with drawings, if any, including all modifications thereof, all which shall be referred to collectively as the Contract Documents.

3. LAWS AND REGULATIONS

a. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work.

b. The Contractor and Subcontractor shall comply with the Virginia Contractor's Registration Law, Title 54, Chapter 7, Code of Virginia (1950), as amended. All nonresident Contractors and Subcontractors submitting bids/ proposals on the work described herein shall register with the Department of Labor and Industry under the provisions of the Subsection 40.1-30 of the code of Virginia (1950), as amended.

4. CONDITIONS AT SITE, BUILDING OR STRUCTURE

Bidders/Offerors shall visit the contract work site or sites and shall be responsible for having ascertained pertinent local conditions such as location, accessibility and general character of the site, building or structure, and the character and extent of existing work within or adjacent to the site.

5. PREPARATION AND SUBMISSION OF BIDS/PROPOSALS

a. Bids/proposals must give the full business address of the bidder/ offeror and be signed by him or her with his or her usual signature. Bids/proposals by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership or any authorized representative, followed by the designation of the person signing. Bids/proposals by Corporations must be signed with the legal name of the corporation followed by the name of the State in which it is incorporated and by the signature and designation of the president, secretary or other person authorized to bind it in the matter. The name of each person signing shall also be typed or printed below the word "President", "Secretary", "Agent", or other designation without disclosing the principal, may be held to be the bid/proposal of the individual signing. When requested by the Town, satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished.

b. Identification Of Bid/Proposal Envelope: The signed bid/proposal should be returned in a separate envelope or package sealed to the Director of Purchasing and identified as follows:

From:

Name of Bidder Due Date Time

Address City/State/Zip Code

Description of Invitation or Request for Proposal

The envelope should be addressed as directed in the solicitation.

6. WITHDRAWAL OR MODIFICATION OF BIDS/PROPOSALS PRIOR TO DUE DATE

Bids/proposals may be withdrawn or modified by written or telegraphic notice received from Bidders/Offerors prior to the time fixed for bid/proposal receipt.

7. RECEIPT AND OPENING OF BIDS/PROPOSALS

a. It is the responsibility of the bidder/offeror to assure that the bid/proposal is delivered to the place designated for receipt of bids/proposals prior to the time set for receipt of bids/proposals. No bid/proposal received after the time designated for receipt of bids/proposals will be considered.

b. Bids received in response to an Invitation for Bids will be opened at the time and place stated in the solicitation and bidder=s names and prices made public for the information of bidders and other interested who may be present either in person or by representative. The Purchasing Director, whose duty it is to open the bids, will decide when the specified time has arrived. No responsibility will be attached to any agent of the Town for the premature opening of a bid not properly addressed or identified. In the case of the proposals received in response to a Request for Proposal, public openings are not required; however, if a public opening is held, only the names of the offerors will be read aloud.

8. WITHDRAWAL OF BID DUE TO ERROR (INVITATION FOR BIDS ONLY)

a. The bidder shall submit to the Purchasing Director his original work papers, document and materials used in the preparation of the bid within two business days after the date fixed for submission of bids. The work papers shall be delivered in person or by certified mail. The bidder shall identify in sufficient detail the nature of the mistake. Such mistake shall be proved only from the original work papers, documents and materials delivered as required herein.

b. No bid may be withdrawn under this section when the result would be awarding the contract on another bid of the same bidder or of another bidder in which the ownership of the withdrawing bidder is more than five percent.

c. If a bid is withdrawn under the authority of this section, the lowest remaining bid shall deemed to be the low bid.

d. No bidder who is permitted to withdraw a bid shall, for compensation, supply any material or labor to or perform any subcontract or other work agreement for the person or firm to whom the contract is awarded or otherwise benefit, directly or indirectly, from the performance of the project for which the withdrawn bid was submitted.

e. If the Town denies the withdrawal of a bid under the provisions of this section, it shall notify the bidder in writing stating the reasons for its decision and award the contract to such bidder at the bid price, provided such bidder is a responsive and responsible bidder.

9. SUBCONTRACTS:

a. The Contractor shall, as soon as practicable after the signing of the contract, notify the Town in writing of the names of Subcontractors proposed for the principle parts of the work. The Contractor shall not employ any Subcontractor that is not responsible or otherwise suitable. The Town shall not direct the Contractor to contract with any particular Subcontractor, however, the Town may disapprove the use of any Subcontractor deemed unsuitable.

b. The Contractor must agree that he is fully responsible to the Town for the acts and omissions of the Subcontractors and of persons either directly or indirectly employed by them as well as those persons directly employed by the Contractor himself.

10. SEPARATE CONTRACTS:

The Town reserves the right to let other contracts in connection with the project or services, the work under which will proceed simultaneously with the performance of the Contract. The Contractor shall afford other separate contractors reasonable opportunity for the introduction and storage of their materials and the performance of their work. The Contractor shall take all reasonable action to coordinate his or her work with the separate contractors. If the work done by the separate contractor is defective or so performed as to prevent the Contractor from carrying out the work according to the plans and specifications, the contractor shall immediately notify the Town upon discovering such conditions.

11. PROJECT INSPECTOR AS THE TOWN'S AGENT:

a. The Project Inspector shall use all powers under the Contract to enforce its faithful performance. The Project Inspector shall determine the amount, quality, acceptability, and fitness of all parts of the work; shall interpret the Contract Documents and extra work orders; and shall decide all other questions in connection with the work. The Project Inspector shall recommend suspension of the work whenever such suspension may be necessary to ensure the proper execution of the Contract. The Project Inspector shall have no authority to approve or order changes in the work which alter the concept or which call for an extension of time or a change in the contract price. Upon request, the Project Inspector shall confirm in writing within ten (10) days any oral order, direction, requirement or determination.

b. All orders from the Town shall be transmitted through the Project Inspector.

12. INSPECTION:

a. All materials and workmanship, if not otherwise designated by the specifications, shall be subject to inspection, examination and test by the Project Inspector at any and all times during manufacture and/or construction. The Project Inspector shall have authority to reject defective material and workmanship and require its correction. Rejected workmanship shall be satisfactorily corrected and rejected material shall be satisfactorily replaced with proper material without charge therefore, and the Contractor shall promptly segregate and remove the rejected material from the premises. If the contractor fails to proceed at once with replacement of rejected material and/or the correction of defective workmanship, the Town may, by contract or otherwise, replace such material and/or correct such workmanship charging the cost to the contractor. The Town may terminate the right of the Contractor to proceed as provided in the Default Clause, the Contractor being liable for any damage to the same extent as provided in the Default Clause for termination thereunder.

b. The Project Inspector may recommend to the Town that the work be suspended when in his or her judgment the intent of the plans and specifications is not being followed. Any such suspension shall be continued only until the matter in question is settled to the satisfaction of the Town. The cost of any such work stoppage shall be borne by the Contractor unless it is later determined that no fault existed in the Contractor=s work.

c. The Project inspector may immediately suspend any work which is being pursued in an unsafe manner and where in his or her judgment, the potential for serious personal injury or property damage exists.

d. The Project Inspector shall not:

1. Authorize deviations from the Contract Documents;
2. Enter into the area of responsibility of the Contractor=s superintendent;
3. Issue directions relative to any aspect of means, methods, techniques, sequences, or procedures;
4. Issue a certificate for payment.

13. SUPERINTENDENCE BY CONTRACTOR:

a. The Contractor shall be responsible for all means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the Contract except where otherwise specified in the Contract Documents.

b. The Contractor shall, at all times, enforce the strict discipline and good order among the workers on the project, and shall not employ on the site any unfit person or anyone not skilled in the work assigned to him or her.

14. CONTRACTOR'S TITLE TO MATERIALS

No materials or supplies for the work shall be purchased by the contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales or other agreement by which an interest is retained by the seller. The Contractor warrants that he has clear title to all materials and supplies for which he invoices for payment.

15. WARRANTY OF MATERIALS AND WORKMANSHIP

a. The Contractor warrants that, unless otherwise specified, all materials and equipment incorporated in the work under the contract shall be new, first class, and in accordance with the Contract Documents and shall be performed by persons qualified in their respective trades.

b. Work not conforming to these warranties shall be considered defective.

c. This warranty of materials and workmanship is separate and independent from and in addition to any other guarantees in this Contract.

16. USE OF PREMISES AND REMOVAL OF DEBRIS

a. The Contractor expressly undertakes, either directly or through its Subcontractor:

1. To perform this Contract in such a manner as not to interrupt or interfere with the operation of any existing activity on the premises or at the location of the work;
2. To store its apparatus, materials, supplies, and equipment in such an orderly fashion at the site of the work as will not unduly interfere with the progress of its work or the work of the Town or any other Contractor; and
3. To place upon the work or any part thereof only such loads as are consistent with the safety of that portion of the work.
4. To effect all cutting, filling or patching of its work required to make the same conform to the plans and specifications, and except with the consent of the Project Inspector, not to cut or otherwise alter the work of any other contractor. The Contractor shall not damage or endanger any portion of the work by cutting, patching or otherwise altering any work, or by excavation.
5. To clean up frequently all refuse, rubbish, scrap, materials and debris caused by its operations, to the end that at all times the site of the work shall present a neat, orderly and workmanlike appearance.

17. PROTECTION OF PERSONS AND PROPERTY

a. The Contractor expressly undertakes, both directly and through its Subcontractors, to take every precaution at all times for the protection of persons and property, including the Town=s employees and property and its own.

b. The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the work.

c. The Contractor shall continuously maintain adequate protection of all work from damage and shall protect the Town=s property from injury or loss arising in connection with this contract. The Contractor shall make good any such damage, injury, or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Town. The Contractor shall adequately protect the adjacent property as provided by law and the Contract Documents, and shall provide and maintain all passageways, guard fences, lights and other facilities for protection required by public authority, local conditions, or any of the Contract Documents.

d. In an emergency affecting the safety or life of individuals, or of the work, or of adjoining property, the Contractor, without special instruction or authorization from the Town, is hereby permitted to act at its discretion, to prevent such threatened loss or injury. Also, should the Contractor in order to prevent threatened loss or injury, be instructed or authorized to act by the Town, he shall so act, without appeal. Any additional compensation or extension of time claimed by the Contractor on account of any emergency work shall be determined as provided by Section 18, "Changes in the Work."

18. CHANGES IN THE WORK

a. The Town may at any time by written order, make changes in the work of this Contract and within the general scope thereof, except that no fixed price contract may be increased by more then twenty-five percent of the amount of the contract or ten thousand dollars ($10,000), whichever is greater. In making any change, the charge or credit for the change shall be determined by one of the following methods as selected by the Town.

1. The change order shall stipulate the mutually agreed price that shall be added to or deducted from the contract price. If the price change is an addition to the contract price, it shall include the Contractor's overhead and profit.
2. By estimating the number of unit quantities of each part of the work which are changed and then multiplying the estimated number by of such unit quantities by the applicable unit price (if any) set forth in the contract or other mutually agreed unit price. If the Town decides to authorize work in accordance with until price, measurement of unit quantities shall be on a net basis.

3. By ordering the Contractor to proceed with the work and to keep, and present in such form as the Town may direct, a correct account of the cost of the change together with all vouchers therefore. The cost shall include an allowance for overhead and profit to be

mutually agreed upon by the Town and the Contractor.

b. The Contractor shall furnish the Town with an itemized breakdown of the quantities and prices used in computing the value of any change that might be ordered.

c. In figuring changes, instructions for measurements of quantities set forth in the specifications shall be followed.

d. All change orders must indicate that the completion date of the project is either not extended or is extended by a specific number of days. Both the old, and if there is one, the new date must be stated.

19. CONTRACTOR'S RIGHT TO STOP WORK OR TERMINATE CONTRACT

If the work should be stopped under any order of any court or other public authority for a period of three (3) months through no fault of the Contractor or of anyone employed by the Contractor, or if the Town should arbitrarily fail to issue any certificate for payment within a reasonable time after they are due, or if the Town should fail to pay the Contractor within thirty (30) days any sum certified by the Town, then the Contractor may, upon fourteen (14) calendar days written notice to the Town, stop work or terminate the contract. The Contractor may then recover the Town payment for the cost of the work actually performed, together with the overhead and profit thereon, but profit shall be recovered only to the extent that the contractor can demonstrate that there would have been a profit on the entire contract if the work had been completed. The Contractor may not receive profit or any other type of compensation for parts of the work that were not performed. The Contractor may recover the cost of physically closing down the job site, but no other costs of termination. The Town may offset any claims it may have against the Contractor against the amounts due to the Contractor.

20. TOWN'S RIGHT TO TERMINATE CONTRACT

a. If the Contractor should be adjudged bankrupt, or if he or she should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his or her insolvency, the Town may terminate the Contract. If the Contractor should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or if he should fail to make prompt payment to Subcontractors or for material or labor, or persistently disregards laws, ordinances or the instructions of the Town, or otherwise be in substantial violation of any provision of the contract, then the Town may terminate the contract.

b. Prior to the termination of the Contract, the Town shall give the Contractor fourteen (14) calendar days written notice. Upon termination of the contract, the Town shall take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method deemed expedient. In such case the Contractor shall not be entitled to receive any further payment. If the expense of finishing the work, including compensation for additional managerial and administrative services, shall exceed the unpaid balance of the contract price, the Contractor shall pay the difference to the Town. The expense incurred by the Town as herein provided, and the damage incurred through the Contractor=s default, shall be certified by the Town.

c. Termination of the Contract under this section is without prejudice to any other right or remedy of the Town.

1) NOTICE OF REQUIRED DISABILITY LEGISLATION COMPLIANCE

The Town of Warrenton is required to comply with state and federal disability legislation: The Rehabilitation Act of 1993 Section 504, The Americans with Disabilities Act (ADA) for 1990 Title II and the Virginians with Disability Act of 1990.

Specifically, the Town of Warrenton, may not, through its contractual and/or financial arrangements, directly or indirectly avoid compliance with Title II of the Americans with Disabilities Act, Public Law 101-336, which prohibits discrimination by public entities on the basis of disability. Subtitle A protects qualified individuals with disability from discrimination on the basis of disability in the services, programs, or activities of all State and local governments. It extends the prohibition of discrimination in federally assisted programs established by the Rehabilitation Act of 1973 Section 504 to all activities of State and local governments, including those that do not receive Federal financial assistance, and incorporates specific prohibitions of discrimination on the basis of disability in Titles I, III, and V of the Americans with Disabilities Act. The Virginians with Disabilities Act of 1990 follows the Rehabilitation Act of 1973 Section 504.

Exhibit C

Mandatory Requirement
(To be executed and submitted with bid)

Any person submitting a bid for construction work to any building, highway, sewer or other structure, the performance of which would require a contractor's license pursuant to the provisions of Sec. 54.1-1100 of the Code of Virginia, 1950, as amended, be required to submit **as part of their bid**:

> Satisfactory proof that such person is duly licensed under the terms of Sec. 54.1-1100 of the Code of Virginia, 1950, as amended, including the furnishing of any such contractor's number. **A copy of your contractor's license can be attached to this form to meet this requirement.**

I certify that the _____ State Contractors License of

_____ , doing business as

_____is in

good standing and not subject to licensure as a contractor, subcontractor or owner/developer

pursuant to Sec. 54.1-1100 of the Code of Virginia, 1950, as amended.

Signed and sealed this _____ of _____, 20 ____.

_____
Principal

_____
Title

State of Virginia, County of _____ , to wit:

The foregoing instrument was acknowledged before me the _____ day of _____, 20 ___ by

_____.

_____ Notary Public

_____
My Commission Expires: